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EDUCATION FOR ALL IN INDIA

Enrolment Projections

ARUN C. MEHTA

NIEPA

The book examines prospects of achieving goal of 'Education For All' in general and 'Universalisation of Elementary Education' in particular. For this, it critically analyses the educational development which has taken place in the country in the last fifty years. It provides the much needed projections of enrolment at the Primary and Upper Primary levels of education for the country as a whole as well as for fourteen major states of India. For this, two well known methods, one based on analysis of past trends, and the other on analysis of 'Student Flow' data have been used. Based on different sets of assumptions about the flow parameters, namely, entry rate, promotion, repetition and drop-out rates, several alternative projections have been made. By using the pattern of over-age and under-age children in different age-groups, it refines projected enrolment which is used to know the status of universal enrolment as well as the year by which a particular state is likely to achieve the goal of universal enrolment. State-wise number of out-of-school children and children required to be enrolled to achieve the goal of universal enrolment is also presented.

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Education For All in India

Enrolment Projections

COMMENTS

There is no doubt that this is a major contribution to the understanding of the demographics of primary education in India. The study should be broadly useful to the Government of India, to scholars in India and to the World Bank and other international agencies.

John Middleton
The World Bank
Washington, D.C.
(USA)

Education For All in India
Enrolment Projections

ARUN C. MEHTA

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Foreword

In the process of formulation of educational plans, quantitative techniques in general and projection and forecasting techniques in particular play a vital role. Importance of such techniques was reiterated when eighth plan adopted disaggregated approach, with the focus on preparation of district-specific plans for universal enrolment. The District Primary Education Programme also envisaged disaggregated target setting at least at the district level. It has been observed that the process of disaggregated target setting has been initiated in a number of project districts but without undertaking enrolment projection exercises. For reliable planning, future information on a number of variables is required but enrolment projections are one of the most important requirements of educational planning as they form the backbone of practically every single task involved in it. None of the tasks like estimation of opening of new schools or upgradation of existing schools, or number of schools and teachers required in future can be accomplished unless the planner has an adequate idea of how many students will enter the system, how they will proceed through various grades, and how many will graduate during the plan period. In the past, enrolment projection and forecasting techniques were broadly applied to all-India data and only a few attempts were made to project state-wise enrolment. Practically, in a majority of states no attempt is made to predict grade-wise enrolment which is important and crucial for efficient monitoring and coordination of EFA activities.

In the present study, Dr. Arun C. Mehta, has undertaken a detailed enrolment projection exercise both at the all-India and state levels and an attempt has also been made to predict grade-wise enrolment. In the past, attention was paid to drop-out rate at the Primary and Upper primary levels of education but grade-to-grade drop-out and entry rates were ignored both of which play a significant role in achieving the goal of universal enrolment. Dr. Mehta has critically analysed the existing status of grade-to-grade repetition, drop-out and entry rates both at the all-India and state levels.

The projection of likely year of achievement of goal of UPE/UEE attempted by Dr. Mehta, perhaps first in the recent past, can be of immense use, if activities are shifted on to educationally backward states identified in the study which may accelerate enrolment rates and lead towards fulfilment of the goal of UEE. New entrants projected can also be of immense use to make available school places and to retain them at least for eight years so as to achieve the goal of UEE.

In the light of EFA related activities, I hope that the present study can be of great significance not only to the DPEP states but also to other states covered in the study. Keeping in view the limitations in the existing set of data, however it would be better to revise the projections as and when more reliable and up-to-date data are available. But, these limitations do not undermine the quality of work which Dr. Mehta has produced in a short span of about three months.

I am sure that the study will be quite useful to educational planners, administrators, policy makers and researchers and would become a reference document for future studies of similar nature.

New Delhi — Kuldeep Mathur
July, 1997 — Director, NIEPA

Preface

There are different stages of planning in general and educational planning in particular. After the diagnosis of the educational development and past programmes, projects and polices are reviewed, the next important stage is plan formulation. For efficient formulation of any plan, information on a variety of indicators is required. Total population and its age and sex distribution, enrolment, number of schools, teachers, out-of-school children, additional children need to be enrolled and financial requirements are some of the few essential variables on which information is required in future. But, enrolment is one such crucial variable on which all other variables are directly or indirectly related to.

Of late, the focus of planning exercises in the country are diverted from quantitative expansion of educational facilities and enrolment drives to quality of education with focus on decentralised planning and disaggregated target setting. In a large number of districts, decentralised planning process is initiated but detailed demographic and enrolment projection exercises are yet to take place. Even at the state level, only a few attempts have been made so far for detailed demographic and enrolment projections. In the absence of these, neither is it possible to undertake exercises relating to the internal efficiency of education system nor reliable estimates of out-of-school and children need to be enrolled over plan period be computed which is otherwise required for efficient planning at different levels of education. Even, targets on crucial rates, like retention, entry and enrolment ratio is not possible to set efficiently, all otherwise produces significant information regarding different components of the goal of universal enrolment.

With the above background, at the request of the World Bank, a detailed population and enrolment projection exercise was undertaken in the case of fourteen major states, as well as, the country as a whole under the DPEP Synthesis Study Research Programme. Support for the study was provided by the Government of India, Ministry of Human Resource Development (Department of Education, District Primary Education Programme) through the Policy and Human Resources Development Fund of the Government of Japan administered by the World Bank.

The book is divided into six chapters. The first chapter presents general information of the study with regard to period of projections, data used and sources, chapter scheme and softwares utilised in carrying out projections which is followed by a detailed analysis of educational development that has taken place in the country in Chapter two. A variety of indicators, such as, growth rates and index numbers over the last fifty years have been computed and extensively utilised. The methodology of the study undertaken is presented in Chapter three which is followed by the results of the trend analysis in Chapter four. In Chapter five, results of the 'student cohort' model have been presented which is followed by a chapter on future prospects. References have been presented at the end.

I am grateful to Dr. John Middleton, Ms. Marlaine Lockheed and Dr. Henchliff of World Bank, Washington D.C. (USA) for giving me an opportunity to undertake the study which is of great significance in the light of the EFA activities in the country. Initial discussions with Dr. Henchliff helped me to formulate the study and its methodology. In particular, I am immensely benefited and encouraged by the comments received from Dr. Middleton which helped me a lot to improve the quality of projections and presentation of the study. Discussions with Sri S.V. Giri, the then Education Secretary also helped me in improving the quality of presentation. In addition, I was also immensely benefited by the interaction which I had with the officers who attended training programmes on educational planning conducted from time to time by the institute.

I thank Prof. Kuldeep Mathur, Director NIEPA for his guidance and encouragement throughout the period of the study which enabled me to complete it in a short span of three months. I am grateful to Dr.

B.C. Mehta, Professor Emeritus (Economics), Jai Narain Vyas University, Jodhpur who initiated me into the field of projections. I am also thankful to Mr. N.D. Kandpal, Documentation Officer, NIEPA who made available all the relevant documents and to Mr. M.M.Ajwani, Deputy Publication Officer and Mr. Amit Singhal of the Publication Unit, NIEPA for their keen interest due to which the study has been published in a short time. I express my thanks to Shri P.N. Tyagi, Cartographer (Computer Applications), NIEPA for drawing all the diagrams so neatly and beautifully. Thanks are also due to colleagues in the Computer Centre, especially Mr. Padam Singh Bisht, for help and cooperation.

I am thankful to my wife Mrs. Madhu Mehta, son Master Madhur and daughter little Sugandha who suffered a great deal because of my prolonged involvement in the study.

Arun C. Mehta

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Chapter 1

Introduction

1.1 Context

Provision of free and compulsory education to all children until they complete the age of fourteen, is a Directive Principle of State Policy incorporated in the Constitution. While adopting the Constitution in 1950, the goal was to provide free and compulsory education to all children up to the age of fourteen, within the next ten years. Keeping in view the educational facilities available at that time in the country, the goal was too ambitious to be achieved within a short period of ten years. Hence, time and again the target date to achieve the goal of Universalisation of Elementary Education (UEE) had had to be revised. Over a period of time, the focus was diverted from mere quantitative expansion of educational facilities to universal enrolment and retention of children up to fourteen years of age with a substantial improvement in the quality of education. During the period 1960-65, no official pronouncements were made regarding Universalisation of Elementary Education (UEE). However, in the year 1965-66, the target date was revised to 1975-76. The Working Group set up by the Planning Commission then revised the target to achieve UEE by the end of the Sixth Plan (1984). The Kothari Commission (1966) had suggested that it be achieved latest by 1986. The National Policy on Education (NPE, 1986) envisaged that all children who would attain the age of about eleven years by 1990 would have had five years of schooling, or its equivalent through the non-formal stream and by 1995 all children will be provided free and compulsory education up to fourteen years of age.

Also, the 'World Conference on Education for All', held at Jomtien, Thailand (March 1990), called upon all the countries and agencies of the world to take effective steps for achieving 'Education For All' (EFA) by the turn of the present century. The forty third meeting of the National Development Council (1991), while identifying the objectives for the Eighth Plan, also envisaged early realisation of universal elementary education and complete eradication of illiteracy among the people in the age-group of 15 to 35 years. The revised Programme of Action (MHRD, 1992,2) further envisaged that free and compulsory education of **satisfactory quality** should be provided to all children up to fourteen years of age before the commencement of the twenty-first century by launching a national mission. More recently, Summit of Nine High Population Countries (1993), in its Delhi Declaration suggested priorities and strategies to achieve goal of EFA by the 2000 AD. Recently, in its judgement, the Supreme Court of India (1993) further ensured free and compulsory education to all children up to the age of fourteen as a fundamental right.

Since 1950, determined efforts have been made to achieve the goal of UPE/UEE/EFA, but despite spectacular quantitative expansion (Chapter 2) of the educational facilities in the country in the last fifty years, the goal still remains elusive and far out of sight. Do the quantitative expansion of educational facilities and recent official pronouncements imply that the target of universal enrolment will be achieved by the turn of the present century? Or, will these targets be further revised? To examine this, future information on both, aggregate and grade-wise enrolment at Primary and Upper primary levels of education is required at micro and macro levels i.e. all-India, state and district level. Also, if the date for achieving universal schooling is to be accelerated, school places will need to expand at a faster rate than in the past, which in turn implies a higher rate of growth of educational expenditure which may also require a higher share of overall government expenditure on education in general and elementary education in particular, all of which depend on future enrolment.

1.2 Objectives

In the light of the above, the present study has been undertaken with the following objectives :

(a) to modify the Standing Committee estimates of age-specific and single-age population in the light of the 1991 Census;

(b) to project enrolment (i) on the basis of past trends and (ii) with improvements in entry, drop-out and repetition rates by considering the age-specific and single-age population separately at Primary and Upper primary levels of education; and

(c) to compute growth rates in enrolment which would be necessary, if universal schooling is to be achieved.

In addition, the present position of entry and transition rates has been critically analysed and out-of-school children in agē-groups 6-10 and 11-13 years at the all-India level have also been computed. Based on the available estimates of overage and underage children, the likely year of achievement of the goal of UPE/UEE has been projected at the all-India and state levels.

1.3 Coverage

Enrolment has been projected for the country as a whole and for its fourteen major states, namely, Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal.

1.4 Data

Secondary data on enrolment from the official sources and age-specific population from the 'Standing Committee of Experts on Population Projections' have been used in the present study (Chapter 3).

1.5 Period of Projections

The period of projections in the case of trend analysis is 1993-94 to 2008-09 and 1991-92 to 2008-09 in the case of student cohort method.

1.6 Computer Software

Computer software for analysis and projection of education data (EDSTAT) developed by UNESCO, Paris and spreadsheet softwares have been extensively used in the present study to carry out projections/ predictions.

1.7 Chapterisation

The present study is divided into six chapters. Educational development in India is presented in Chapter 2 which is followed by a chapter on methodology. In Chapter 4, projections based on trend analysis have been presented whereas grade-wise enrolment predictions are presented in Chapter 5. The conclusions of the study are summarised in Chapter 6, which is followed by a list of references used in the study.

Chapter 2

Educational Development in India

2.1 An Overview

During the last four decades the progress of education, especially in terms of number of institutions and teachers, have been quite impressive. The number of Primary and Upper primary institutions has increased from 210 and 14 thousand in the year 1950-51 to 573 and 156 thousand in the year 1993-94 which shows compounded growth of 2.37 and 5.77 per cent respectively. The rate of growth of Primary and Upper primary institutions during the period 1980-81 to 1993-94 was 1.13 and 2.03 per cent respectively as compared to 1.06 and 2.10 per cent after the National Policy on Education (1986) was announced. The number of pre-primary schools has also increased from 303 in 1950-51 to 17,172 in year 1993-94 which shows sphere of early childhood care and development activities. Yet, as the Sixth All India Educational Survey (1993) revealed, about 526 thousand of the total 1,059 thousand habitations in the country in year 1993-94 had no primary schooling facilities within the habitation. More than 53 thousand (5.35 per cent) habitations in 1986-87 did not have primary sections even upto a distance of two kilometres and 10.16 per cent habitations without Upper primary schooling facilities even up to five kilometres. More than 70 thousand Primary schools and about 17 thousand Upper Primary schools in year 1986-87 were being run in kachha (make-shift) buildings (NCERT, 1992). The number of non-formal education centres in the country increased from 126 thousand in 1986 to 215 thousand by March 1994, with girls' centres increasing from 21 thousand to 79 thousand. During the same period enrolment in NFE centres rose from 4 million to 5 million (MHRD, Annual Report: 1993-94). Though educational facilities are available to a large segment of population both in rural and urban areas, still a large number of institutions do not have minimum infrastructural facilities required for effective functioning, which is evident from the findings of the recently conducted base-line studies in the District Primary Education Programme (DPEP) states.

The number of primary teachers has increased from 538 thousand in 1950-51 to 1,703 thousand in 1993-94, showing an annual exponential increase of 2.72 per cent compared to 6.06 per cent at the Upper primary level and the percentage of primary schools without a teacher and single-teacher primary schools has declined from 0.62 to 0.43 per cent and from 34.75 to 28.91 per cent during the period 1978 to 1986. About 92 per cent primary teachers were trained but female teachers constitute only 29.76 per cent of the total primary teachers. About 2,274 primary schools were without teachers and 1,52,856 with only one teacher (1986). The same is also evident from the status of the 'Operation Blackboard' scheme where, in 1992, about 23 per cent schools in 16 per cent community development blocks and 71 per cent municipal areas were not covered under the scheme (NIEPA and DOE, 1992). Only 103 thousand (67.76 per cent) teachers could be appointed as against the target of 152 thousand single-teacher schools identified for coverage and only 115 thousand (48.12 per cent) class-rooms had been constructed, as against the target of 239 thousand. Also, as against the optimum teacher-pupil ratio of 1:25, at the all-India level, it was: 50 in year 1993-94 and teachers' salaries constitute more than 90 per cent of the total recurring expenditure on primary education. So far as the share of education to Gross National Product (GNP) is concerned, the increase is not as envisaged in the policy document (6 per cent); however, it has increased from 1.2 per cent in year 1950-51 to 3.7 per cent at present (NIEPA and DOE, 1992,2). Recently the Prime Minister announced that education would get an outlay of six per cent of the national income from the Ninth Five Year Plan which amounted to about Rs.53,000 Crore.

So far as the Gross Enrolment Ratio at the Primary level is concerned, it has increased from a low 42.6 per cent in 1950-51 to

104.5 per cent in year 1993-94, the corresponding ratios at the Upper primary level being 12.7 and 67.7 per cent respectively. Over a period of time the share of girls' enrolment to total enrolment at the Primary level improved significantly from a low 28.1 per cent in 1950-51 to 42.9 per cent in year 1993-94. Enrolment ratio of Scheduled Caste (107.81 per cent) and Scheduled Tribe (106.97) population also improved significantly and is almost on par with the general population. The entry rate for boys at the all-India level is about 137 per cent but a significant gap in the boys'/girls' entry rate has been noticed. The available statistics further suggest that a large number of children enter the education system every year but nearly half the children who enter Grade I drop out before reaching Grade V, and two-thirds of the children drop out before they reach Grade VIII, which is predominantly due to factors relating to poverty and school effectiveness and class-room interactions. At the all-India level, about 7.8 per cent boys and 15.1 per cent girls of those who had taken admission in the year 1989-90 dropped out from the system before they reach Grade II. The statistics also suggest that in the process, about 58 per cent boys and 65 per cent girls dropped out from the system before completion of an educational cycle, which severely affect the efficiency of the education system.

Therefore, in the present chapter, the progress of educational development in India, with particular reference to objectives of 'Education for All', has been briefly analysed. Growth in enrolment over the past forty years has been critically examined for which publications of the MHRD as well as data generated through National Sample Survey Organisation (NSSO) have been used and analysed. Broadly, NSSO data is used to assess the status of free education and the MHRD for growth in enrolment. First, the goals of 'Education for All' are briefly presented below (MHRD, Annual Report: 1992-93):

(a) Expansion of early childhood care and development activities;
(b) Universalisation of Elementary Education with the following programme components:
    - access to elementary education for all children upto 14 years of age;

- * universal participation till they complete the elementary stage through formal or non-formal stage through formal or non-formal education programmes; and
- * universal achievement at least of minimum level of learning.

(c) Drastic reduction in illiteracy rate especially in the age-group 15-35 years and to bring literacy level in this age-group to at least 80 per cent; and

(d) Provision of opportunities to upgrade education, creation of necessary structures and improving the content and process of education to relate it better to environment and working conditions.

Universal Literacy

Just like the progress at the elementary level, a significant progress is made in the field of literacy and continuing education but like universal enrolment, the goal of universal literacy also remains elusive. From a low 18.33 per cent in the year 1951, it is reported to be 52.21 per cent in the 1991 Census. The female literacy rate is still low which has increased from 8.86 per cent to 39.29 per cent during the same period. However, due to change in definition of literacy in 1991, the real progress made during the decade 1981 to 1991 is not reflected. If a minor adjustment is made to the available data, the corresponding literacy rate comes out to be 42 per cent which was about 36 per cent in 1981. The same, if computed at the state level, would reveal that for a majority of states it would not be possible to achieve the goal of universal literacy by the stipulated year 2001. Recently, based on the past trends Mehta (1993,2) projected that the goal of universal literacy in the country is not likely to be achieved even after the year 2027 (HT, 1993).

Free and Compulsory Education

As against the constitutional provision of free education, the NSSO 42nd Round survey conducted during 1986-87 shows that out of the poorest children of the 20 per cent households in rural areas, about 22.15 per cent of those in the Government schools were not getting free education as against 40.15 per cent in urban areas and 89.88 and 84.30 per cent respectively in privately managed institutions. In Government schools, the amount of expenditure in rural and urban areas was only Rs.61 and Rs.79 per annum respectively. About 21.30 per cent girls of the poorest of the 20 per cent households in rural areas were not getting free education (general) against 38.57 per cent in urban areas. More than 23.32 and 15.40 per cent children of Scheduled Caste and Scheduled Tribe population in rural areas were not getting free education in Government schools as against 94.31 and 89.45 per cent in Private schools. Compared to this, about 43.96 per cent of Scheduled Caste and 83.26 per cent of Scheduled Tribe population in urban areas were not getting free education in Government schools as against 87.13 and 85.88 per cent respectively in privately managed institutions. Taking all the levels of education together, more than 72.57 per cent of the children in rural areas and 43.65 per cent in urban areas who got free education were in the Government schools, as against 84.62 and 51.05 per cent at the primary stage. About 10.86 and 3.42 per cent children of the poorest of the 20 per cent households in primary and post-primary grades in rural areas were exempted from paying tuition fee as against 23.44 and 7.60 in urban areas. Taking all the levels of education together, the corresponding figures for the 20 per cent poorest households were only 15.71 per cent in rural areas and 13.85 per cent in urban areas. In the absence of the latest data, it is not known how much fee is being paid or primary education is made free, as envisaged in the Constitution. So far as the compulsory education is concerned, a number of states including Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh have passed ordinances through which primary education is made compulsory. But, the situation in most of the states with particular reference to UPE is far from satisfactory. Recently, the Government has introduced a bill in the Parliament (Bill No. XXXIX of 1997) which will make free & compulsory education as a fundamental right. However, the fourteen years of age is proposed to be changed to six to fourteen years and responsibility of sending children to school will be of parents, failing to which it is proposed that parents will be prosecuted.

Universal Access

Of those not currently enrolled in the age group 6-11 years, more than 22.39 and 27.24 per cent children in 1986-87 did not attend school because schooling facilities were not available to them and because of lack of interest in studies and/or further studies and 12.83 and 10.66 per cent of them cited 'busy in attending domestic chores' and 'failures' as reasons of their not being enrolled respectively (NSSO, 1991). In the rural areas about 24.32 per cent children could not attend schools due to non-availability of the schooling facilities and 11.67 per cent due to failures and 27.89 per cent due to lack of interest in studies. This is perhaps due to inadequate number of teachers and also absence of teaching aids in schools. Further, the distribution of persons not currently enrolled (drop-outs) in any educational institution showed that in 1986-87, about 6.66 and 19.71 per cent children were self employed (both in agriculture and non-agricultural activities) and had regular wage respectively in the 6-11 and 12-14 age-groups. About 3.59 per cent children of age-group 6-11 and 14.88 per cent of age-group 12-14 were the casual labour. In rural areas, out of 18.44 million children, 5.15 million (27.95 per cent) of the age-group 6-11 and 13.76 million (26.95 per cent) of the age-group 12-14 were from the labour force and 20 per cent of the poorest households, as against 0.95 million (42.85 per cent) and 2.33 million (37.68 per cent) in urban areas. Out of 65.89 million persons below 30 years of age and not currently enrolled as students, 14.39 million (21.84 per cent) and 49.34 million (7.49 per cent) were in Primary and Post-primary grades from the poorest of the 20 per cent households. Approximately 51 per cent of all urban children in the age-group 6-11 years and 46 per cent of those in the age-group 12-14 who were not currently enrolled in primary or post-primary education belonged to the poorest of the 20 per cent of the households.

2.2 Enrolment Analysis

In the present chapter, growth of school education in India has been analysed for which enrolment data at different levels of education during the period 1950-51 to 1993-94 has been used. Generally, data at five year intervals has been presented. For measuring growth, enrolment statistics has been converted into a variety of indicators and results are analysed at the all-India level which is briefly presented below.

2.2.1 Primary Level

At the time of the adoption of the Constitution in the year 1950, enrolment at the Primary level was 19.16 million of which girls constituted only 5.39 million (28.13 per cent). The gross enrolment ratio at that time was 42.6 (total) and 24.8 (girls) per cent corresponding to which the enrolment ratio of boys was 60.6 per cent which shows boys-girls' differential in enrolment ratio to be 35.80 per cent at the Primary level compared to 22.40 per cent in the year 1993-94. During the next five years, enrolment in Primary grades was added by another 5.9 million children of which girls contributed 2.2 million

Table 2.1
Growth of Enrolment at Primary Level (Grades I-V)
All India : 1951-1994

Year	*Total*		*Index Numbers*			
			Boys		*Girls*	
1950-51	100.00		100.00		100.00	
1955-56	130.73		126.81		140.74	
1960-61	182.29		171.01		211.11	
1965-66	262.86		233.19		338.70	
1970-71	296.87		258.70		394.44	
1975-76	341.98		294.57		463.15	
1980-81	384.22		328.19		527.41	
1985-86	455.42		378.62		651.67	
1986-87	453.80	(100.00)	374.49	(100.00)	656.48	(100.00)
1987-88	471.15	(103.82)	387.75	(103.54)	684.48	(104.28)
1988-89	475.36	(104.75)	390.14	(104.18)	693.24	(105.64)
1989-90	480.99	(105.99)	393.26	(105.01)	705.19	(107.45)
1990-91	516.25	(113.76)	421.01	(112.42)	759.63	(115.74)
1991-92	529.06	(116.58)	429.13	(114.59)	784.44	(119.53)
1992-93	548.80	(120.93)	438.04	(116.97)	831.85	(126.75)
1993-94	563.54	(124.18)	447.83	(119.54)	859.26	(131.07)

Source: Computed by the author.

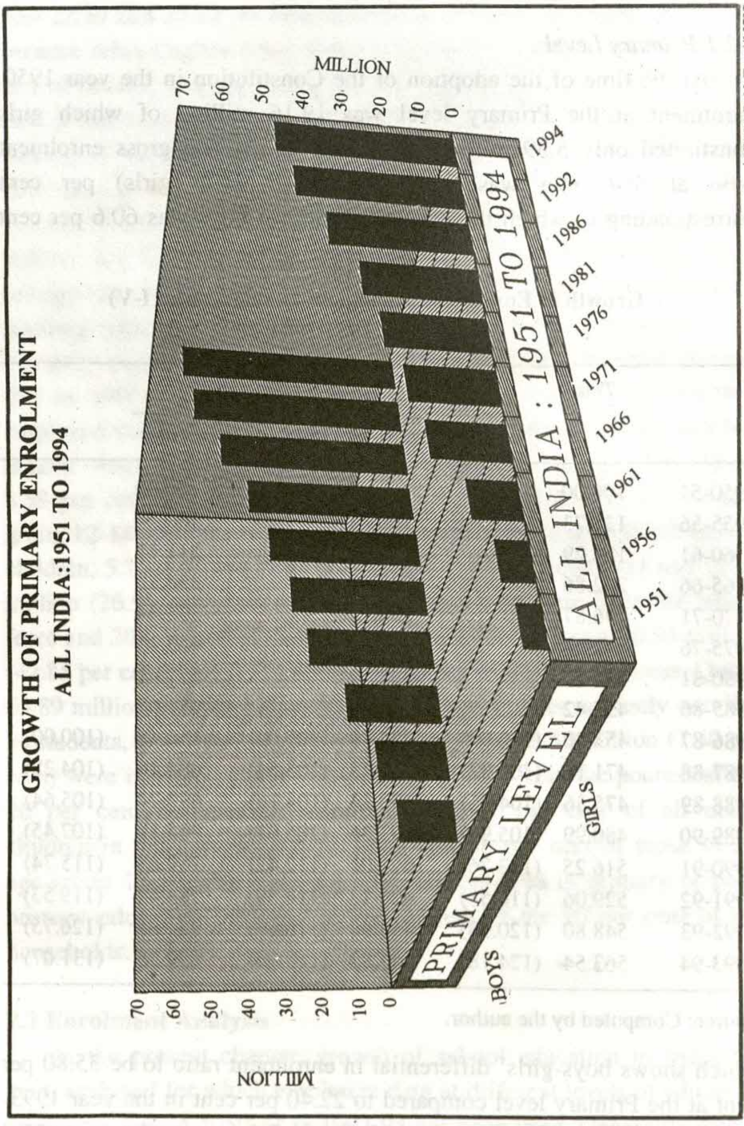

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Fig. 2.1

(37.29 per cent). Further, it has been observed that enrolment ratio (gross) had improved significantly to 52.8 per cent in the year 1955-56 compared to 32.8 per cent of girls. Thereafter, it started a rising march until the year 1985-86 but slightly declined in the next year in both absolute and ratio forms. Interestingly, girls' enrolment maintained its rising march but fall in enrolment noticed in year 1986-87 was due to decline in boys' enrolment from 52.25 million in the year 1985-86 to 51.68 million next year. The corresponding enrolment ratios were 111.08 and 109.99 per cent respectively in the years 1985-86 and 1986-87. Despite the increasing trend in girls' enrolment (in absolute terms), the improvement in GER was not significant. After 1986-87, enrolment at the Primary level again started looking up which continued till the year 1993-94. Data for the year 1986-87 onwards when analysed, reveals that enrolment in Grades I-V has increased from 87.13 million in the year 1986-87 to 92.35 million in the year 1989-90 which shows a rate of growth of 1.96 per cent per annum. During the period 1989-90 to 1993-94, enrolment in primary grades (boys) increased at the rate of 3.30 per cent per annum which is 7.53 million in absolute terms, corresponding girls' enrolment increased by about 5.06 per cent i.e. 8.32 million. In ratio form, enrolment over a period of time at the Primary level also increased significantly which is at present 115.3 and 92.90 per cent respectively in the case of boys and girls. However, the same do not present the real progress because of the inclusion of overage and underage children in enrolment at the Primary level.

Table 2.2
Growth of Enrolment at Primary Level (Grades I-V)
All India : 1950 to 1990

(In Percentages)

	COMPOUND GROWTH RATE		
Period	*Total*	*Boys*	*Girls*
1950 to 55	5.51	4.87	7.07
1955 to 60	6.88	6.16	8.45
1960 to 65	**7.60**	**6.39**	**9.92**
1965 to 70	2.46	2.10	3.09
1970 to 75	2.87	2.63	3.26
1975 to 80	2.36	2.19	2.64
1980 to 85	3.46	2.90	4.31
1985 to 90	2.54	2.15	3.11

Source: Computed by the author.

As mentioned, index numbers and compound growth rates have been computed to measure the growth of enrolment. Index numbers have been computed by taking the 1950-51 enrolment as the base year and the relative figures are obtained upto the year 1993-94 (Table 2.1). Since the NPE was announced in the year 1986, the same has also been computed by taking enrolment in year 1986-87 as the base year. Compound growth rates have been computed on a quenquennial basis for the period 1950-55 to 1985-90 (Table 2.2).

The index numbers at the Primary level show a spectacular increase in enrolment throughout the period 1950-51 to 1993-94. It increased from 100 in the year 1950-51 to 564 in the year 1993-94 showing an increase of 5.64 times in about 43 years. The break-up of enrolment of boys and girls further reveals that the increase was more rapid in the case of girls (8.59 times) than boys (4.48 times). In the initial period, first after the independence, enrolment in the base year was very low. Hence, it shows a spectacular progress at the Primary level but in the later years the tempo couldn't be maintained, which is evident from the values of index numbers computed (1986-87 to 1993-94) by taking 1986-87 as the base year. Thus, the index number which was 100 in the year 1986-87 increased marginally to 104 next year which further improved to 124 in the year 1993-94. During the same period, enrolment at the Primary level (in absolute terms) increased from 87.13 million to 108.20 million showing compounded growth of 3.14 per cent per annum and the corresponding enrolment ratio was 95.33 and 104.5 per cent respectively in the years 1986-87 and 1993-94. Again, it has been observed that the rate of increase in girls' enrolment is higher than the rate of increase in boys' enrolment. Similarly, compound growth rates which have been worked out in different periods show a declining trend in both boys' and girls' enrolment. However, in some periods, higher growth rates in the case of girls have been noticed than in enrolment of boys. Further, the results reveal that in the initial period, enrolment at the Primary level increased rapidly from a low 5.51 per cent during the period 1950 to 1955 to 6.60 per cent during the period 1955 to 1960 and to 7.60 per cent during the period 1960 to 1965. However, it started declining throughout the period 1985 to 1990. The average annual increase was only to the extent of 2.15 and 3.11 per cent during the period 1985 to

1990 which has declined from a high 6.39 and 9.92 per cent during the period 1960 to 1965 respectively in the case of boys and girls. Further, it has been observed that percentage expenditure on elementary education to total investment on education declined from 55 per cent in the First Plan (1951-56) to 34 per cent in the Seventh Plan. However, in absolute terms, the same has increased from Rs. 930 million to Rs.19,630 million showing an increase of Rs.18,700 million which is more than 20 times than in the First Plan. Thus the rapid decline in enrolment at the Primary level (in terms of growth rate) noticed above may be due to percentage share of investment on elementary education which, in fact, declined from 37 per cent in the Third Plan (1961-66) to 31 per cent in the Fourth Plan (1969-74). In fact, investment on elementary education in percentage terms is too erratic to make any further comments.

2.2.2 *Upper Primary Level*

As at the Primary level, an increasing trend in enrolment at the Upper primary level (Grades VI-VIII) has been noticed throughout the period 1950-51 to 1993-94. However, compared to the Primary level, the growth in enrolment (in terms of ratios) at the Upper primary level is not impressive. From a low 3.12 million enrolment in the year 1950-51, it increased to 46.40 million in the year 1993-94 showing more than a fourteen fold increase but the corresponding enrolment ratio (gross) improved from 12.70 to only 67.70 per cent in the year 1993-94. Further, it has been noticed that the growth in enrolment after 1986-87 has become erratic which is quite similar to that at the Primary level. From 48.96 per cent enrolment ratio in the year 1985-86, the same has declined to 48.19 per cent next year but further improved to 50.21 per cent in 1987-88 but again declined to 48.89 per cent next year which is due to decline in GER of both boys and girls. But in absolute terms, enrolment in Grades VI-VIII which was 27.49 million in year 1986-87 improved to 29.29 million next year and further improved to 30.88 million in the year 1989-90. The compound growth rates computed in different five year periods (Table 2.3) reveal that compared to the Primary level, growth rates are higher in both boys' and girls' enrolment but still a large number of children of age-group 11-13 years

Table 2.3
Growth of Enrolment at Upper Primary Level (Grades VI-VIII)
All India : 1950 to 1990

(In Percentages)

	COMPOUND GROWTH RATE		
Period	*Total*	*Boys*	*Girls*
1950 to 55	6.58	5.79	10.18
1955 to 60	9.33	8.17	13.46
1960 to 65	**9.46**	**8.66**	**11.79**
1965 to 70	4.81	4.17	6.49
1970 to 75	3.77	3.12	5.27
1975 to 80	5.28	4.86	6.17
1980 to 85	5.68	4.95	7.11
1985 to 90	4.03	3.27	5.39

Source: Computed by the author.

are out of school. Further, the growth rates reveal that the increasing trend in enrolment at the Upper primary level continued upto the period 1960 to 1965, after which it started declining which is similar to the situation at the Primary level. The decline in growth rates continued till the period 1970 to 1975 after which it started looking up but during the period 1985 to 1990, it again declined to 4.03 per cent. The growth rates over a period of time, further reveal that both at the Primary and Upper primary levels of education, a large number of girls joined the education system but due to low retention and/or high drop-out rates couldn't remain in the system. Enrolment statistics further reveal that compared to the Primary level, a large number of children (in terms of percentage) of age-group 11-13 years are still out of schools. However, it has been noticed that over a period of time, percentage share of girls' enrolment to total enrolment at the Primary and Upper primary levels of education has improved significantly. From a low 28.11 and 16.11 per cent in the year 1950-51, it has improved to 42.88 and 39.34 per cent in the year 1993-94 respectively at the Primary and Upper primary levels of education but disparity between the two is still high and significant.

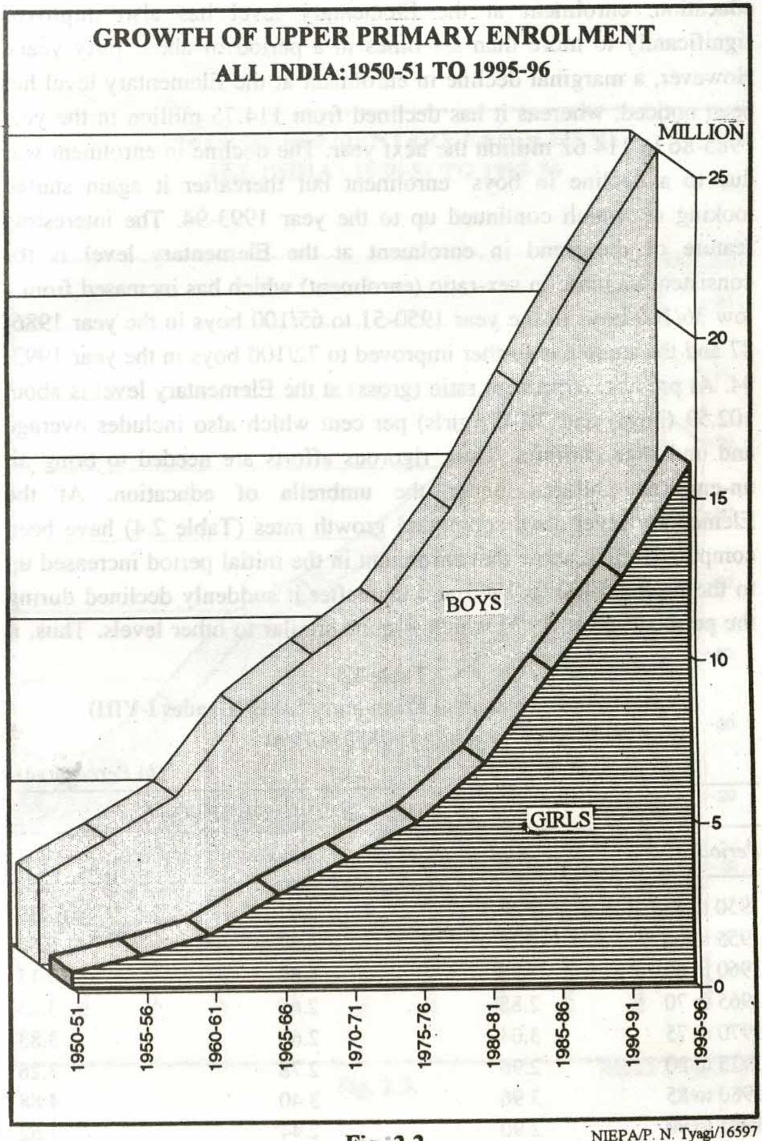

Fig. 2.2

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2.2.3 Elementary Level

Similar to the increase at the Primary and Upper primary levels of education, enrolment at the Elementary level has also improved significantly to more than six times in a period of about forty years. However, a marginal decline in enrolment at the Elementary level has been noticed, whereas it has declined from 114.75 million in the year 1985-86 to 114.62 million the next year. The decline in enrolment was due to a decline in boys' enrolment but thereafter it again started looking up which continued up to the year 1993-94. The interesting feature of the trend in enrolment at the Elementary level is the consistent increase in sex-ratio (enrolment) which has increased from a low 36/100 boys in the year 1950-51 to 65/100 boys in the year 1986-87 and the same has further improved to 72/100 boys in the year 1993-94. At present, enrolment ratio (gross) at the Elementary level is about 102.59 (boys) and 79.45 (girls) per cent which also includes overage and underage children. Thus, rigorous efforts are needed to bring all un-enrolled children under the umbrella of education. At the Elementary level also, compound growth rates (Table 2.4) have been computed which show that enrolment in the initial period increased up to the period 1960 to 1965 and thereafter it suddenly declined during the period 1965 to 1970 which is quite similar to other levels. Thus, it

Table 2.4
Growth of Enrolment at Elementary Level (Grades I-VIII)
All India : 1950 to 1990

(In Percentages)

	COMPOUND GROWTH RATE		
Period	*Total*	*Boys*	*Girls*
1950 to 55	5.66	5.01	7.39
1955 to 60	7.25	6.50	9.00
1960 to 65	**7.90**	**6.82**	**10.15**
1965 to 70	2.88	2.65	3.33
1970 to 75	3.04	2.60	3.83
1975 to 80	2.96	2.78	3.26
1980 to 85	3.96	3.40	4.88
1985 to 90	2.90	2.44	3.62

Source: Computed by the author.

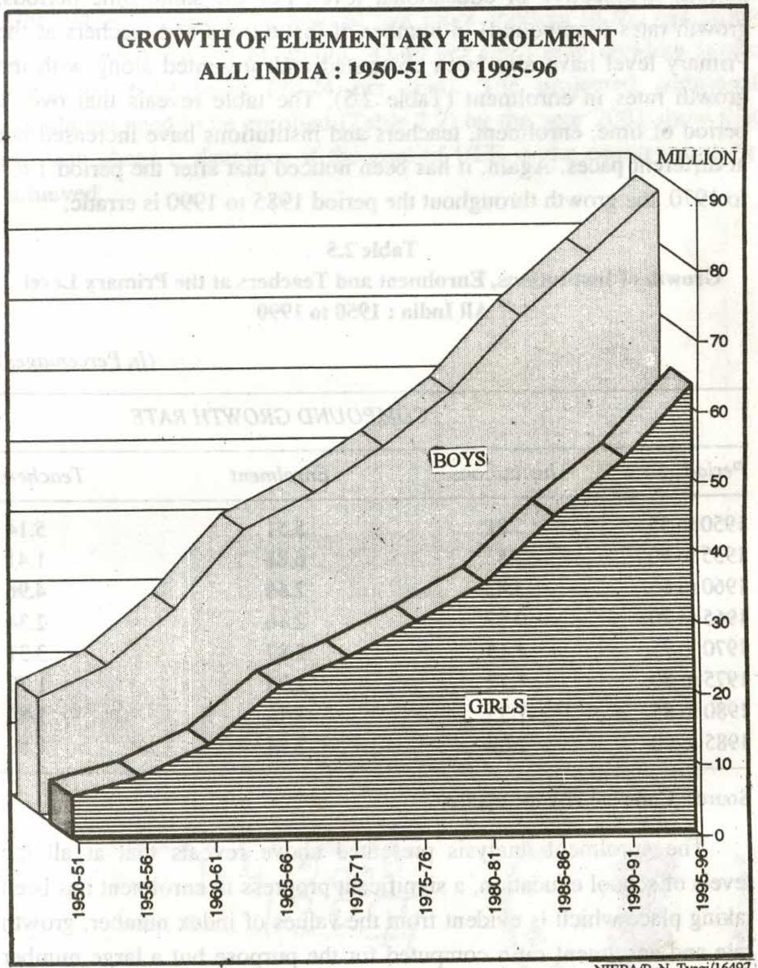

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Fig. 2.3

has been noticed that during the last forty years, maximum growth has taken place during the period 1960 to 1965 which may be due to a small base at that time. One of the other interesting features of the trend in the growth of enrolment is higher rates of growth for girls in all periods irrespective of educational level. For the same time periods, growth rates (compound) in number of institutions and teachers at the Primary level have also been computed and presented along with the growth rates in enrolment (Table 2.5). The table reveals that over a period of time, enrolment, teachers and institutions have increased but at different paces. Again, it has been noticed that after the period 1965 to 1970, the growth throughout the period 1985 to 1990 is erratic.

Table 2.5
Growth of Institutions, Enrolment and Teachers at the Primary Level
All India : 1950 to 1990

(In Percentages)

	COMPOUND GROWTH RATE		
Period	*Institutions*	*Enrolment*	*Teachers*
1950 to 55	5.81	5.51	5.14
1955 to 60	3.5	6.88	1.41
1960 to 65	**3.43**	**7.60**	**4.96**
1965 to 70	0.87	2.46	2.34
1970 to 75	2.15	2.87	3.31
1975 to 80	1.72	2.36	1.79
1980 to 85	1.35	3.46	1.87
1985 to 90	1.09	2.54	1.82

Source: Computed by the author.

The enrolment analysis presented above reveals that at all the levels of school education, a significant progress in enrolment has been taking place which is evident from the values of index number, growth rate and enrolment ratio computed for the purpose but a large number of children of age-group 6-13 years are still out of school. The out-of-school children in different age-groups in the years 1992-93 and 1993-94 have been presented in Table 2.6 which is based on the Standing Committee (adjusted) estimates of population. Before out of school children are worked out, overage and underage children have been taken out from enrolment for which estimates based on NSSO data (Table 3.4) have been utilised. A perusal of results reveal that at all levels of school education, more girls are out of school than boys and the difference between the two is large and significant. For the year 1993-94, it has also been noticed that more children in the age-group 11-13 years were out of school (42.40 per cent) than children in the age-group 6-10 years (20.24 per cent). The projected additional population need to be enrolled (Table 2.7) by the year 2001 show that the task ahead is daunting, if the goal of UEE in the country is to be achieved.

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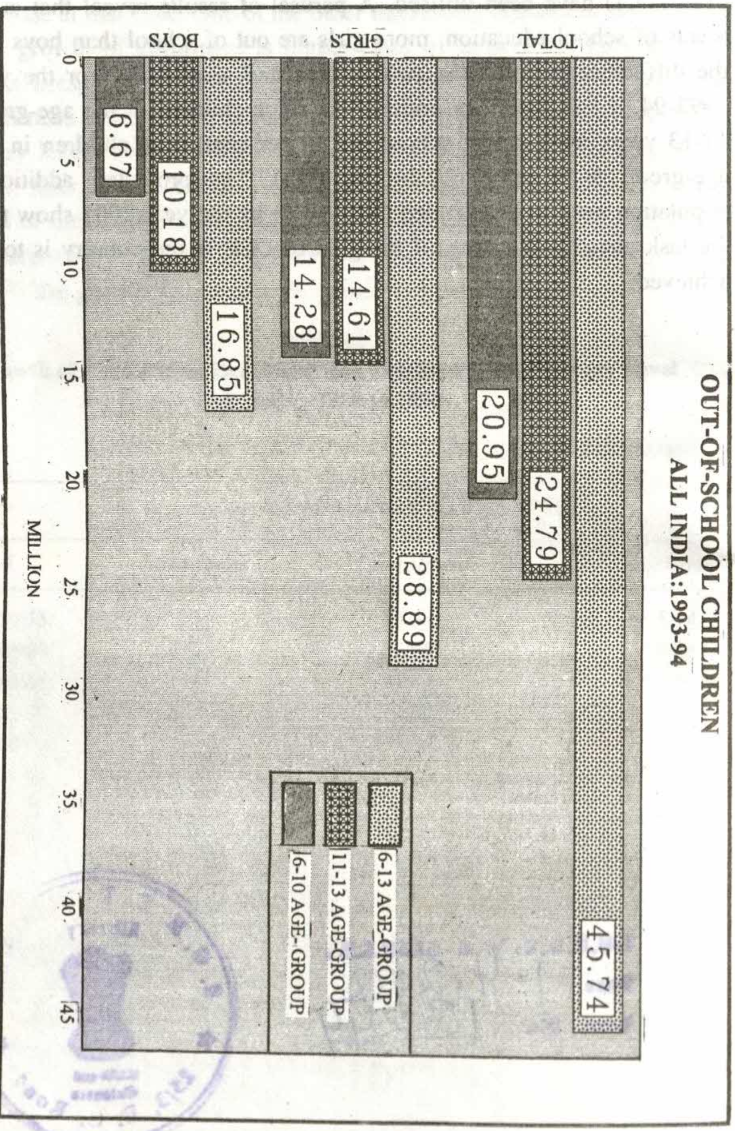

Fig. 2.4

NIEPA/P. N. Tyagi/15697

Table 2.6

Out-of-School Children at Different Levels of Education All India : 1992-93 and 1993-94

(In Millions)

Age-group (In Years)		*Population*	*Educational Level*	*ENROLMENT*		*Out-of-School Children*
				Official	*Refined*	
			1992-93			
BOYS	6-10	52.99	I-V	60.45	45.89	7.10
	11-13	29.52	VI-VIII	23.69	19.64	9.88
	6-13	82.51	I-VIII	84.14	65.58	16.93
GIRLS	6-10	49.37	I-V	44.92	34.52	14.85
	11-13	27.58	VI-VIII	15.02	13.02	14.56
	6-13	76.95	I-VIII	59.94	47.51	29.44
TOTAL	6-10	102.36	I-V	105.37	80.41	21.95
	11-13	57.10	VI-VIII	38.71	32.66	24.44
	6-13	159.46	I-VIII	144.08	113.07	46.39
			1993-94			
BOYS	6-10	53.59	I-V	61.80	46.92	6.67
	11-13	30.25	VI-VIII	24.21	20.07	10.18
	6-13	83.84	I-VIII	86.01	66.99	16.85
GIRLS	6-10	49.94	I-V	46.40	35.66	14.28
	11-13	28.22	VI-VIII	15.70	13.61	14.61
	6-13	78.16	I-VIII	62.10	49.27	28.89
TOTAL	6-10	103.53	I-V	108.20	82.58	20.95
	11-13	58.47	VI-VIII	39.91	33.68	24.79
	6-13	162.00	I-VIII	148.11	116.26	45.74

Note: Enrolment has been refined at the rate of 24.08, 17.08 and 21.96 per cent for boys, 23.15, 13.32 and 20.62 per cent for girls and 23.71, 15.78 and 21.45 pent for total children respectively at Primary, Upper primary and Elementary levels computed on the basis of NSSO data (see Mehta, 1993, 2).

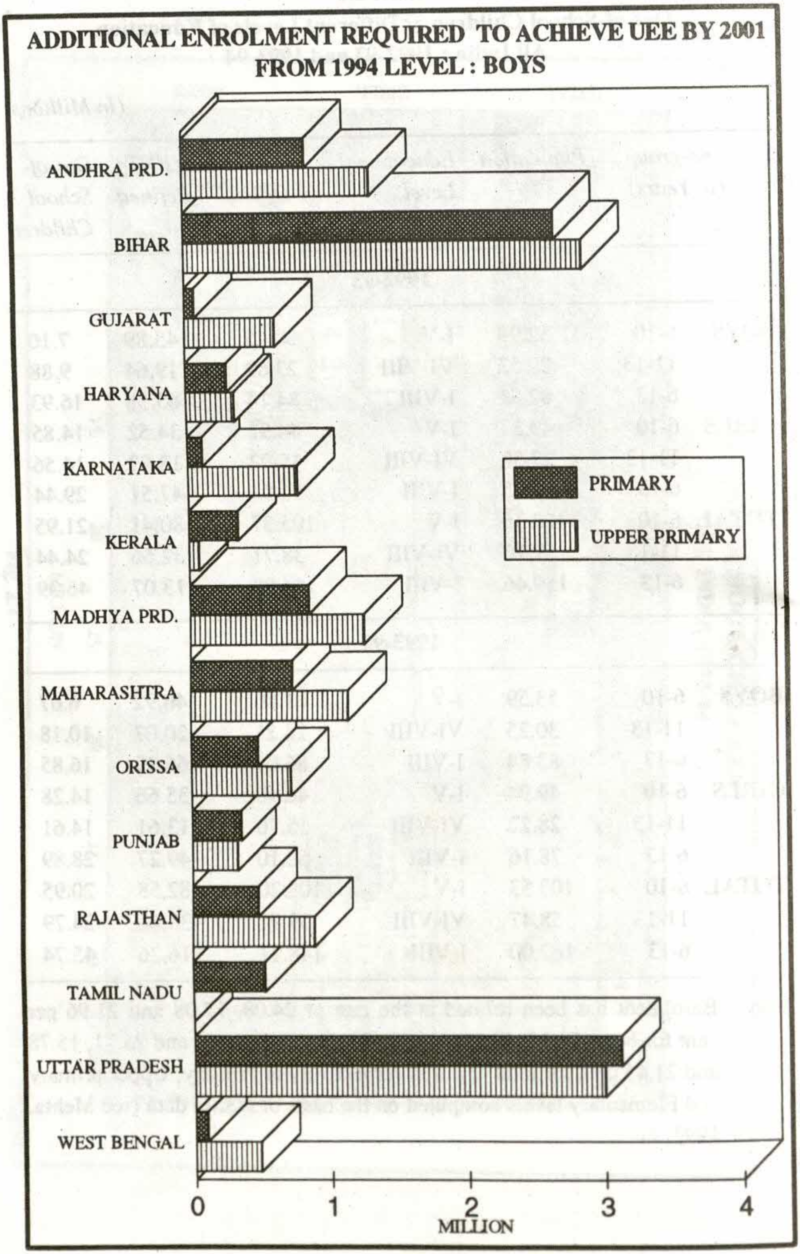
ADDITIONAL ENROLMENT REQUIRED TO ACHIEVE UEE BY 2001 FROM 1994 LEVEL : BOYS

Fig. 2.5

NIEPA/P N Tyagi/14797

Table 2.7

State-wise Projection of Additional Population Needs to be Enrolled upto the Year 2001 from 1993-94 Level

(In Millions)

State	*Primary*			*Upper Primary*			*Elementary*		
	Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*	*Boys*	*Girls*	*Total*
Andhra Pradesh	0.89	1.37	2.26	1.36	1.61	2.97	2.25	2.98	5.23
Bihar	2.68	4.64	7.32	2.89	3.33	6.21	5.57	7.97	13.54
Gujarat	0.07	0.60	0.66	0.65	0.92	1.57	0.72	1.51	2.23
Haryana	0.30	0.36	0.66	0.35	0.40	0.75	0.66	0.76	1.41
Karnataka	0.11	0.28	0.39	0.80	0.89	1.69	0.91	1.18	2.08
Kerala	0.36	0.38	0.73	0.07	0.06	0.13	0.43	0.43	0.86
Madhya Pradesh	0.87	1.77	2.65	1.27	1.78	3.05	2.14	3.56	5.69
Maharashtra	0.74	0.99	1.73	1.15	1.38	2.53	1.89	2.37	4.26
Orissa	0.49	0.96	1.45	0.73	0.79	1.52	1.21	1.75	2.96
Punjab	0.36	0.38	0.75	0.33	0.34	0.67	0.70	0.72	1.42
Rajasthan	0.48	1.96	2.44	0.89	1.51	2.41	1.37	3.47	4.84
Tamil Nadu	0.53	0.15	0.67	0.00	0.17	0.17	0.53	0.32	0.85
Uttar Pradesh	3.12	5.31	8.43	3.00	4.21	7.21	6.12	9.51	15.64
West Bengal	0.09	0.24	0.33	0.48	0.58	1.06	0.56	0.83	1.39
All India	**10.44**	**19.73**	**30.16**	**15.09**	**19.43**	**34.52**	**25.52**	**39.16**	**64.68**

Notes: (i) Enrolment has been refined on the basis of 24.08, 17.08 and 21.96 per cent (boys) and 23.15, 13.32 and 20.62 per cent (girls) estimates of overage and underage children respectively at Primary, Upper primary and Elementary levels of education which are subject to change when more reliable state-specific estimates are available. Hence, the present estimates are purely tentative in nature and may be even gross under/over estimation of the actual ones.

(ii) Estimates may not tally due to rounding off of figures.

(iii) Additional Enrolment is based on the actual achievements up to the year 1993-94

(iv) Based on the Standing Committee (adjusted) estimates of age-specific population.

(v) In Tamil Nadu, the existing per cent of overage and underage children at Primary (Boys 49.0 and Girls 40.0 per cent) and Upper primary (Boys 11.3 per cent) levels of education has been retained.

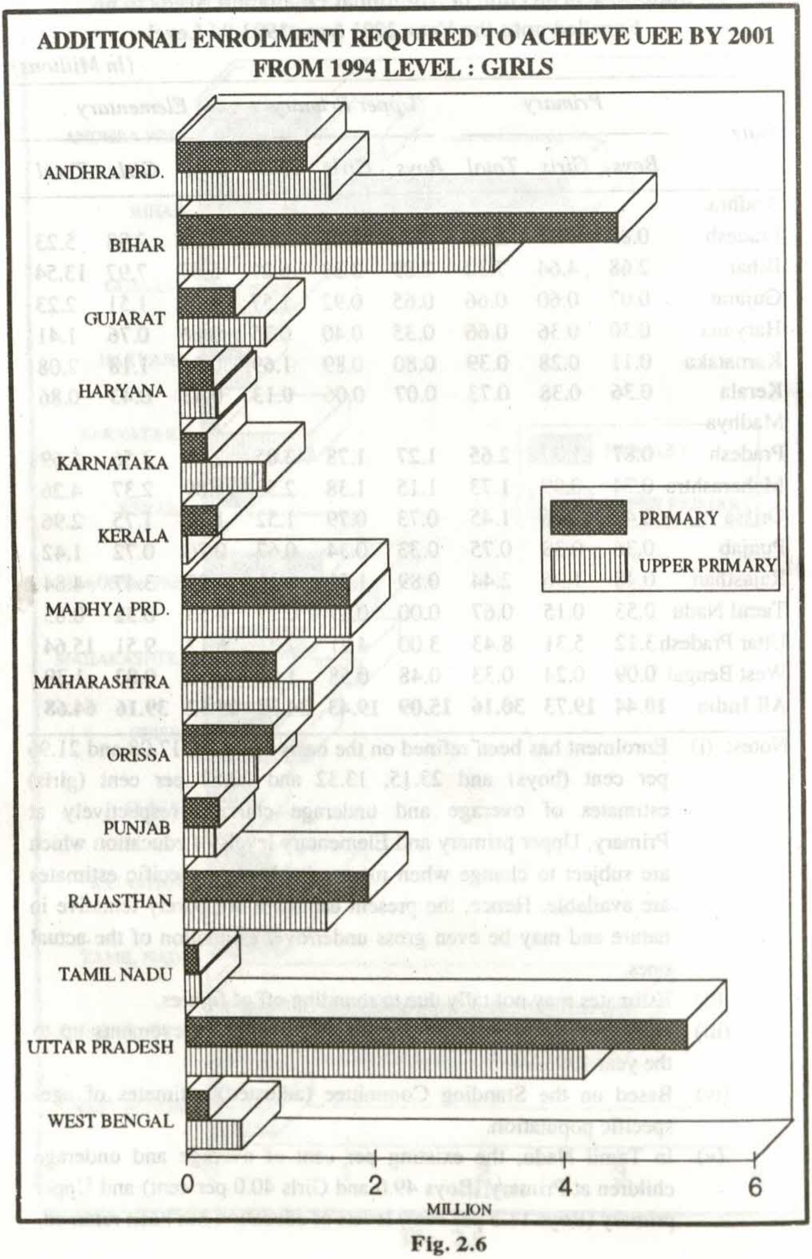

Fig. 2.6

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Chapter 3

Projection Techniques

In the present chapter, methodology of the study undertaken in terms of population projections, enrolment projection techniques, criterion used for retaining a particular model etc. has been briefly presented.

3.1 Population Projections

One of the important factors on which future enrolment is based upon is age-specific and single-age population over a period of time. Projection of age and sex distribution of population requires detailed information on base year vital rates and assumptions on a number of items, such as, expectation of life at birth, mortality rates in different age-groups separately for male and female population and sex ratio at birth (Mehta, 1996,1 and 2). Though the 1991 total population along with population in the age-group 0-6 years and its sex distribution is available for all the States and UTs, but the age-group population has not yet been released by the Office of the Registrar General of India. However, estimates of the **Standing Committee of Experts on Population Projections** (1989) are available. Both age-specific and single-age population separately for male and female population upto the year 2006 is available but the same is based upon population upto the 1981 Census. Thus, for obtaining future population, two options are available (i) use the Standing Committee (1989) estimates without any modifications; and (ii) modify the Standing Committee estimates in accordance with the 1991 actual population. A comparison of 1991 actual and projected population (Standing Committee) has been presented in Table 3.1 for fourteen major states and all-India level

Table 3.1

Deviation between Actual and Projected Polpulation

1991

(In Millions)

State	*Male*		*Per Cent Deviation*	*Female*		*Per Cent Deviation*
	*Projected**	*Actual***		*Projected**	*Actual***	
Andhra Pradesh	32.85	33.73	2.59	32.47	32.78	0.97
Bihar	45.08	45.20	0.26	43.17	41.17	- 4.85
Gujarat	21.53	21.36	-0.83	20.64	19.96	- 3.42
Haryana	8.90	8.83	-0.78	7.85	7.64	- 2.81
Karnataka	22.79	22.95	0.69	22.06	22.03	- 0.17
Kerala	14.80	14.29	-3.58	15.26	14.81	- 3.07
Madhya Pradesh	33.77	34.27	1.44	31.60	31.91	0.98
Maharashtra	40.11	40.83	1.75	37.72	38.11	1.03
Orissa	16.25	16.06	-1.14	15.73	15.60	-0.87
Punjab	10.70	10.78	0.74	9.65	9.50	-1.52
Rajasthan	22.61	23.04	1.87	21.10	20.96	-0.68
Tamil Nadu	28.18	28.30	0.41	27.56	27.56	0.00
Uttar Pradesh	71.33	74.04	3.65	63.98	65.08	1.68
West Bengal	34.60	5.51	2.58	31.70	32.57	2.65
All India	434.56	439.23	1.06	409.04	407.07	-0.48
MAE			**1.34**			**1.76**
MSE			**3.71**			**4.92**

Note : * Standing Committee Estimates (1989) of 1991 Population

** Census of India, Final Population Table (1991).

MAE : Mean Absolute Error

MSE : Mean Square Error

separately for male and female population. It has been observed that the deviation computed in both absolute and percentage form is small and insignificant. The highest deviation is obtained for Uttar Pradesh (3.65 per cent) in the case of male population and Bihar (4.85 per cent) in the case of female population. The Mean Absolute Error (MAE) and Mean Square Error (MSE) computed between 1991 actual and the Standing

Committee estimates of total state-wise population indicate that values of both the indicators are very small and within acceptable limits. Thus, in view of small deviations, the Standing Committee estimates can be used without modifications, as the distribution of deviation in absolute form among different age-groups would not change the original projected population to any significant extent. However, in the present study, the small deviations have been distributed among different age-groups and pro-rata adjustments have been made for which a correction factor has been applied to the population in different age-groups, namely, 0-4, 5-9, 10-14, 15-19 and 20-24 years and modified male and female population in the year 1991 has been obtained. While modifying the age-group population, first the deviation in absolute form has been computed separately for male and female population and then it is distributed in different age-groups in accordance with its per cent share to total population. For obtaining age-group population for the year 1996, first the growth rate (compound) has been computed between the period 1991 to 1996 and then the same rate has been applied to 1991 modified population to get the 1996 adjusted population. The procedure has been repeated till population in the year 2006 is obtained. Since, the Standing Committee estimates are available only upto the year 2006 the rate of growth of population between the period 2001 to 2006 has been assumed constant and applied to the population in the year 2006 to obtain the population in different age-groups in the year 2011. However, it is worth-while to mention here that both population and enrolment (projected) is not likely to hold good for a very long period, such as, 1991 to 2008, especially in view of the fact that the base year (1991) population and its age-distribution itself is projected (adjusted) and not the actual one. The projected population in different age-groups is then used to get single-age population with the help of **'Sprague Multipliers'** (coefficients) (Mehta 1992,1). This has been done separately for male and female population and single-age population has been obtained for the years 1991, 1996, 2001, 2005 and 2011 (Table 3.3). By simple interpolation, population in the intermediary years has been obtained. Single-age population has been added together to obtain population in the specific age-groups, namely 6-10 and 11-13 years in different years. The state-wise projected (age-specific) population is presented in Tables 4.6 to 4.19 of Chapter 4. The

Table 3.2
Official and Revised Gross Enrolment Ratio: 1993-94

State	*Primary Level*				*Upper Primary Level*			
	Boys		*Girls*		*Boys*		*Girls*	
	Official	*Revised*	*Official*	*Revised*	*Official*	*Revised*	*Official*	*Revised*
Andhra Pradesh	116.4	116.9	100.1	100.5	73.9	75.6	53.1	54.4
Bihar	95.9	95.8	54.4	54.4	47.4	48.9	21.0	21.3
Gujarat	131.4	131.1	106.0	105.8	82.8	83.7	55.5	56.7
Haryana	109.7	109.9	95.4	99.8	81.8	82.8	59.2	62.5
Karnataka	124.3	124.5	115.2	115.5	72.4	72.6	57.2	57.3
Kerala	103.8	103.6	100.8	100.5	108.3	108.9	105.7	106.3
Madhya Pradesh	116.7	116.7	91.3	91.5	82.5	84.2	50.0	51.0
Maharashtra	123.6	123.7	115.0	115.1	89.0	90.0	71.9	73.7
Orissa	116.8	116.5	77.6	85.7	67.5	68.2	46.9	51.5
Punjab	92.9	92.7	88.1	87.8	71.8	72.4	63.4	64.0
Rajasthan	119.5	119.4	60.9	62.3	76.8	77.7	28.9	29.3
Tamil Nadu	149.0	148.1	140.8	139.8	111.3	113.1	91.0	92.1
Uttar Pradesh	103.9	104.2	72.8	73.0	72.2	72.7	35.4	35.6
West Bengal	124.7	129.6	123.0	122.8	98.2	108.2	89.1	94.6
All India	**115.3**	**115.3**	**92.9**	**92.9**	**79.3**	**80.0**	**55.2**	**55.6**

Note: GER are revised on the basis of adjusted age-specific population (Standing Committee).

Table 3.3
State-wise Projected Population (Age '6')*

(In Hundreds)

Year	All India		AP		Bihar		Gujarat		Haryana		Karnataka		Kerala		MP	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
1990-91	108754	101083	8697	7785	12772	11465	5384	5030	2297	2051	5235	4878	3110	3024	9251	8531
1991-92	109217	101600	8674	7858	12821	11565	5366	5016	2327	2081	5262	4916	3066	2986	9288	8579
1992-93	109681	102119	8651	7931	12869	11667	5348	5003	2358	2110	5290	4954	3023	2949	9324	8627
1993-94	110148	102641	8628	8005	12918	11769	5330	4989	2389	2141	5317	4993	2981	2913	9361	8675
1994-95	110616	103166	8606	8080	12968	11872	5313	4976	2420	2172	5345	5032	2939	2877	9378	8724
1995-96	111087	103693	8583	8155	13017	11976	5295	4962	2452	2203	5373	5071	2898	2841	9435	8773
1996-97	111072	103699	8576	8150	13113	12078	5301	4963	2437	2190	5303	5005	2910	2851	9430	8775
1997-98	111057	103705	8569	8145	13209	12180	5307	4965	2421	2178	5234	4940	2923	2861	9425	8777
1998-99	111043	103711	8561	8140	13306	12284	5312	4966	2406	2166	5166	4875	2935	2871	9419	8780
1999-2000	111028	103717	8554	8135	13404	12388	5318	4968	2391	2153	5099	4812	2947	2882	9414	8782
2000-01	111013	103723	8547	8130	13502	12493	5324	4969	2376	2141	5033	4749	2960	2892	9409	8764
2001-02	111175	103896	8513	8086	13567	12577	5384	5030	2370	2135	5011	4728	2979	2912	9415	8797
2002-03	111337	104069	8479	8042	13633	12661	5444	5092	2364	2128	4989	4707	2999	2931	9422	8810
2003-04	111500	104243	8445	7998	13699	12746	5505	5155	2357	2122	4967	4686	3018	2951	9428	8824
2004-05	111663	104417	8411	7954	13765	12832	5567	5218	2351	2115	4946	4665	3038	2971	9435	8837
2005-06	111826	104591	8377	7911	13832	12918	5629	5282	2345	2109	4924	4644	3058	2991	9441	8850
2006-07	111990	104767	8344	7868	13900	13005	5692	5346	2339	2103	4903	4624	3078	3011	9448	8864
2007-08	112155	104943	8311	7825	13968	13092	5755	5412	2333	2097	4881	4603	3098	3031	9454	8877
2008-09	112320	105119	8278	7783	14036	13180	5819	5478	2328	2090	4860	4583	3118	3052	9461	8891

Note: * Standing Committee (adjusted) Population.

Continued ...

Table 3.3

State-wise Projected Population (Age '6')

(In Hundreds)

Year	Maharashtra		Orissa		Punjab		Rajasthan		Tamil Nadu		UP		West Bengal	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
1990-91	9542	8859	3897	3637	2490	2285	6338	5857	6236	5909	19072	16923	8560	8104
1991-92	9611	8947	3953	3698	2461	2257	6342	5864	6001	5689	19252	17115	8502	8065
1992-93	9680	9036	4010	3760	2432	2229	6347	5871	5775	5478	19494	17309	8405	8025
1993-94	9750	9125	4067	3823	2403	2201	6351	5879	5558	5275	19617	17505	8388	7986
1994-95	9820	9216	4126	3888	2375	2174	6356	5886	5348	5079	19802	17703	8331	7948
1995-96	9891	9307	4185	3953	2347	2147	6360	5893	5147	4890	19989	17904	8275	7909
1996-97	9136	9355	4205	3970	2328	2134	6372	5907	5114	4857	20066	18020	8252	7879
1997-98	9387	9403	4226	3988	2309	2121	6384	5920	5082	4824	20144	18138	8229	7849
1998-99	9645	9451	4246	4005	2290	2108	6397	5934	5049	4791	20221	18256	8206	7819
1999-2000	9910	9500	4267	4022	2271	2096	6409	5947	5017	4758	20300	18374	8183	7790
2000-01	10183	9549	4288	4040	2252	2083	6421	5961	4985	4726	20378	18494	8160	7760
2001-02	10300	9657	4304	4055	2276	2106	6425	5966	5012	4750	20442	18574	8128	7724
2002-03	10419	9766	4320	4071	2300	2129	6428	5970	5040	4774	20506	18654	8096	7688
2003-04	10539	9876	4336	4037	2324	2152	6432	5975	5068	4798	20570	18735	8064	7652
2004-05	10660	9988	4352	4102	2348	2175	6435	5979	5096	4823	20634	18816	8032	7616
2005-06	10783	10101	4368	4118	2373	2199	6439	5984	5124	4847	20699	18897	8000	7581
2006-07	10907	10215	4384	4134	2397	2222	6443	5889	5152	4871	20442	18978	7968	7546
2007-08	11033	10330	4401	4149	2422	2246	6446	5993	5180	4895	20506	19060	7936	7511
2008-09	11160	10447	4418	4165	2447	2270	6450	5998	5208	4919	20570	19143	7905	7476

enrolment ratio (gross) in the years 1992-93 and 1993-94 based on the adjusted age-specific population have been computed which shows that in the case of a few states, such as, Andhra Pradesh, Madhya Pradesh and Maharashtra, the difference in the year 1992-93 is significant. Similarly, in the year 1993-94 (Table 3.2), a significant deviation has been noticed in the case of Haryana, Orissa and West Bengal. Otherwise, at the all-India level, not much deviation has been noticed.

In the present study, with a few exceptions, age-specific population reported in the official documents have been considered without modifications up to the year 1988-89, thereafter projected population (adjusted) during the period 1989-90 to 2008-09 has been used. However, it has been noticed that in the case of Bihar, the age-specific population (11-13 years) declined dramatically in recent years which look unrealistic and any statistics based on it would not present the true picture and would also affect future enrolment. In Bihar, population in the age-group 11-13 years reported in the official publication has declined from 6.99 million in the year 1988-89 to 5.70 million next year. Therefore, in the case of Bihar, the Standing Committee estimates during the period 1985-86 have been used to get population of age-group 11-13 years.

3.2 Enrolment Projection Techniques

Enrolment projections are one of the most important requirements of educational planning as they form the backbone of practically each single task involved in it. Whether it is a question of opening new schools or upgradation of existing schools or the number of schools and teachers required in future, none of these tasks can be accomplished unless the planner has an adequate idea of how many students will enter the system, how they will proceed through various grades, and what number will graduate during the plan period. Hence, over a period of time, it is therefore important to know total enrolment at all levels of education as well as in different grades for better and reliable educational planning.

The techniques of enrolment projections can broadly be classified into two groups, namely, mathematical and analytical techniques (UNESCO, 1986, Mehta, 1992,2 and Mehta 1997,1). Mathematical methods require aggregate enrolment data at least for ten years, and only total enrolment can be projected by employing both linear and non-linear equation methods. These methods involve an extrapolation of the past into the future and assume that the past trend in enrolment would continue in the future. On the other hand, in analytical methods, such as, methods based on 'student flow' apart from actual enrolment, estimation, assumptions and targets on items like promotion, drop-out, repetition and entry rates are required. The demographic pressures on education can also be captured in methods based on analytical techniques as the computation of entry rate is based on population of school entrance age, that is, 6 years. This rate has a significant bearing on enrolment in Grade I which forms the basis of enrolment in other grades in subsequent years. Thus, an element of judgement in terms of policy variables can be introduced in analytical methods. Targets, assumptions and estimation on entry and transition rates should be feasible based on the past trend, otherwise projection of enrolment would be far from reality. In the past, Premi (1972), Prakash, Ansari and Ganesh (1986), Prakash and Aggarwal (1987) and Srinivasan, Kulkarni and Parsuraman (n.d.) projected enrolment at the all-India level by employing both linear and non-linear methods. Recently, Mehta (1994,1 and 1995, 2 and 3) applied both the analytical methods e.g., those involving grade ratio and grade transition for projecting grade-wise enrolment (Grades I-V) at the all-India level but grade-wise projections at the state level as such has not yet been attempted. Tilak (1994), while projecting state-wise requirements of resources for education in India, considered the Standing Committee (1989) projected population of age-group 6-14 years as the future elementary enrolment. More details of the method is presented in Chapter 5.

In the present study, both the mathematical and analytical methods have been employed at the Primary and/or Upper primary levels of education.

In the first step of enrolment projections, trend analysis is carried out by assuming that enrolment is a function of time. For this purpose, both linear and non-linear equations have been fitted to aggregate enrolment at the all-India level during the period 1966-67 to 1989-90, the equations fitted being linear, exponential, reciprocal, logarithmic and power. Second degree curves are also tried for which a computer model (Mehta, 1992,1) has been used. In addition to the trend analysis, regressions are also run by assuming enrolment as a function of time 't' and the relevant age-specific population 'P' and using the equations mentioned above, both the exercises are carried out at the Primary and Upper primary levels of education as well as separately for boys, and girls, enrolment. For the state-wise projections, time-series during the period 1966-67 to 1992-93 has been used. Aggregate and grade-wise enrolment both at the all-India and State level has been projected for the period 1993-94 to 2008-09 and 1991-92 to 2008-09 respectively. At the all-India level, projected enrolment during the period 1990-91 to 1992-93 are compared with the provisional figures produced in the 'Selected Educational Statisitcs'. In order to judge the reliability of a particular technique, Mean Square Error (MSE) and Mean Absolute Error (MAE) have been calculated. Other criterion (Mehta, 1991) used are the Coefficient of Determination (R^2), Standard Error of the Estimate and Significance of the Regression Coefficients. Equation with higher R^2 value and level at which a coefficient is significant has been considered for retaining a particular equation for projection purposes (Mehta and Mehta, 1987).

In the next exercise of projections, analytical methods have been employed to get grade-wise enrolment which is based on the **'Student Cohort Model'** which views education as a system, which receives inputs in the form of new entrants, transforms these inputs through certain outputs in the form of graduates. The student flow analysis starts at the point where students enter into an education cycle i.e. Grade I. The flow of student into, through and between an educational cycle is determined by five factors, namely, the population of admission age, entry rate and the promotion, repetition and drop-out rates in the first and subsequent grades. Therefore, grade-wise promotion, repetition and drop-out rates at the all-India and state level have been computed from one grade to another and the same has been utilised to project future enrolment for which transition rates of cohort 1989-90 are considered as the base year rates. Grade-wise enrolment have been projected by considering different sets of assumptions on intake and transition rates which depends upon the real situation in different states. Hence, different assumptions on entry and drop-out rates have been considered in different states and enrolment is predicted (Chapter 5).

3.3 Data Requirements

In order to employ projection techniques, data on enrolment and repeaters are required which is briefly discussed below.

3.3.1 Enrolment[1]

For projecting aggregate and grade-wise enrolment at the Primary and Upper primary levels of education, enrolment data from the publications of the Ministry of Human Resources Development (MHRD) namely, **'Education in India'** and **'Selected Educational Statistics'** have been extensively used in the present study. A long time-series (1966-67 to 1992-93) of enrolment (aggregate) at the Primary and Upper primary levels of education has been constructed. Broadly, enrolment during the period 1966-67 to 1989-90 has been taken from the 'Education in India' and 1990-91 to 1992-93, from the 'Selected Educational Statistics', both of which are the latest publications of the Department of Education. While constructing the time-series, it has been observed that in many a state enrolment produced in the official documents look unrealistic and inconsistent. For instance, in Andhra Pradesh, for the years 1988-89 and 1989-90, the enrolment statistics reported is exactly the same for both the years which may not be true. Further, boys and girls break-up of enrolment in these two years is also found to be exactly the same. Similar is the case with Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal, all of which are considered important states, if goal of EFA in the country is to be realised. In West Bengal, enrolment (aggregate) both at the Primary and Upper primary levels during the period 1987-88 to 1989-90 are reported exactly the same, which is also not possible. In order to see consistency in the enrolment statistics, 'Selected Educational Statistics' was referred but again it has been observed that the statistics presented for the period 1988-89 to 1990-91 is exactly the same and do not match well with those produced in the 'Education in India' and the deviation noticed between the two is exorbitantly large. Therefore, in West Bengal, the time-series for the period 1966-67 to 1987-88 has been constructed for making enrolment (aggregate) projections. More distortions in enrolment statistics is highlighted in Chapters 4 and 5 where state-wise projections based on the trend analysis and analytical techniques have been presented. Thus, keeping in view the quality of available statistics in general and large states in particular, it is very difficult to construct a reliable long time-series of enrolment both at the Primary and Upper primary levels of education. These limitations in data may severely affect the quality of projections.

3.3.2 Repeaters

Basically, analytical techniques mentioned above require grade-wise enrolment data along with number of repeaters for at least two consecutive years. A long time-series of grade-wise enrolment both at the all-India and state level is available from the MHRD publications, but long time-series on repeaters is not available (Mehta, 1993,1). Repeaters data was available up to the year 1970-71 but after that the series was discontinued. Again, since the year 1984-85, the series is revamped and information on grade-wise repeaters is now available up to the year 1991-92. The state-wise repeaters data is also available but for many states such data is either not collected or is not disseminated which, in a few states, may be due to implementation of no detention policy up to the Primary level. But at the same time, till recently states such as, Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra and West Bengal (except Grade V) did not report incidence of repetition in any grade. On the other hand Haryana strictly follows a policy of no detention up to Grade II, whereas Uttar Pradesh follows it up to Grade III. Also, in Rajasthan, if repeaters are subtracted from enrolment, they exceed enrolment in the previous grade which give promotion rate even more than hundred per cent which may be either due to misreporting of the number of repeaters or may be due to large scale enrolment of migrants from other areas to a particular grade. Apart from the time lag, the other limitation is that it is available only at seven points of time. Hence, long time-series couldn't be built up which is otherwise required for capturing future trends in repetition and drop-out rates.

However, till reliable data on repeaters is available, there is no option but to utilise the available statistics. Hence, any exercise of enrolment projections at the all-India level will be of limited use and will not present true picture due to the reasons mentioned above. Therefore, an attempt has also been made in the present study to project grade-wise enrolment at the state level. For predicting enrolment (grade-wise), repeaters and enrolment during the period 1984-85 to 1990-91 have been used at the all-India level whereas enrolment during the period 1989-90 to 1990-91 is used to make predictions at the state level. Though grade-wise enrolment for year 1993-94 is expected to be released shortly by NCERT based on its 'Sixth All India Educational Survey', the same cannot be used for making projections, as at least two years' consecutive grade-wise data is required to employ grade ratio/transition method of enrolment predictions.

3.4 Likely Year of UEE

In order to work-out the likely year of achievement of UEE, age-grade matrix is required which helps us in computing the Net Enrolment Ratio (NER). Since age-grade matrix is not available, NER cannot be computed. However, a few estimates of overage and underage children at the Primary and Upper primary levels of education are available which are briefly presented below.

3.4.1 Estimates of Overage and Underage Children

A number of estimates of overage and underage children at the Primary and Upper primary levels of education are available, most of which are computed at the all-India level, only a few are available at the state level (Mehta 1995 1 and 3). In order to work out the number of children outside the prescribed age-group, information on underage and overage children is required but the available estimates cannot be used directly at block, district and state level because the methodology used in generating information on which the estimates are based vary from source to source. At the elementary level, the most authentic source of grossness is the Ministry of Education (MOE) estimate which is based on the actual age-grade matrix. The same estimate is available up to the year 1970-71, after that the series was discontinued, though the estimate is available both at the state and all-India level. Using the MOE age-grade data during the period 1950 to 1970 and by employing the method of least squares, Kurrien (1983) estimated 22 per cent as an amount of grossness at the Primary level and 39.2 per cent at the Upper primary level. The next source of grossness which is also based on the complete enumeration of educational institutions like the MOE estimate, is the NCERT estimate but that too is available occasionally, 1986-87 being the latest one. The estimate is based on survey data which provides an age-grade matrix only at the all-India level and no information is available at the state level. The Kurrien estimate of 22 per cent at the Primary level is amply supported by the MOE and NCERT estimates. A number of other estimates based on sample surveys are also available. Such estimates are provided by NIEPA (1992,1 and 1993) and NSSO (1991). But, due to size of the sample used in the survey, the estimate of grossness cannot be generalised at the all-India or even at the state level. In another national survey for monitoring of UEE, also conducted by the NIEPA in 1992, all the states and union territories of the country were covered. The survey was based on a large number of institutions covering all the educational blocks of the country but it provides an estimate of overage and underage children in Grade V only which cannot be compared with other available estimates, and hence is of no use in the present context. The estimates of overage and underage children are also referred and used in the Working Group on Early Childhood and Elementary Education (1989), Eighth Five Year Plan document (1992) and EFA document (1993) of MHRD but are available only at the all-India level. While the working group used 22 per cent as an estimate of total grossness at all levels of education, the eighth plan used only 15 per cent compared to 25 per cent referred in the EFA document of the MHRD. However, no reference has been given on the basis of which the estimates are computed. Hence, the estimates can be used at the all-India level only.

The next estimate, which is available separately for rural and urban areas, is the NSSO estimate based on the household survey conducted during 1986-87. Like the NCERT estimate, it is also available only at a single point of time and that too at the all-India level only and hence no time-series can be built up. The NSSO estimates compare well with the MOE and NCERT estimates, especially at the Primary level. However, a significant difference has been noticed at the Upper primary level. Thus, MOE estimates at the state level and NCERT and NSSO estimates at the all-India level are left for use. However, these estimates are too outdated to use but in the absence of latest data, there is no option but to use the available estimates in whatsoever form they are available. In addition, the estimate of grossness can also be derived from the states where enrolment ratio (gross) at present is more than hundred per cent. A perusal of the 1993-94 enrolment ratio reveals that in a number of States and UTs it is very high. For instance Tamil Nadu (145.00 per cent), West Bengal (123.90 per cent), Maharashtra (119.40 per cent), Karnataka (119.90 per cent), etc. had very high enrolment ratios which means at least 45.00, 23.90, 19.40 and 19.90 per cent grossness at the Primary level. Further, it has also been noticed that enrolment targets at the state level provided in the eighth plan document, when added together, do not match well with the targets fixed at the all-India level and the deviation is significant. Hence, pro-rata adjustment is required which means the estimate of grossness at the all-India level is not applicable at the state level. At the micro-level, especially at the block and district level, where setting targets is an important task, information on overage and underage children is needed. The available estimates of overage and underage children cannot be used at the micro-level, as for that purpose, a survey at the local level would be most appropriate to conduct.

Table 3.4

Estimates of Overage and Underage Children at Different Levels of Education : NSS0 42nd Round (July 1986 - June 1987)

(Figures in Percentages)

Educational Level	*Rural*			*Urban*			*Total*		
	Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*	*Boys*	*Girls*	*Total*
Primary	23.87	22.71	23.43	24.74	24.21	24.50	24.08	23.15	23.71
Middle	18.15	13.77	16.84	14.14	12.66	13.48	17,08	13.32	15.78
Elementary	22.18	20.69	21.64	21.33	20.49	20.96	21.96	20.62	21.45

Source : Mehta (1993,2).

Thus, in the absence of state-specific estimates of grossness and in view of the estimates at the all-India level, it has been assumed in the present study that once a state acquires 131.20 per cent (@ 23.71 per cent grossness) enrolment ratio at the Primary and 118.50 per cent (@ 15.78 per cent grossness) at the Upper primary level (Table 3.4), it would achieve the goals of UPE and UEE which is purely tentative in nature and subject to change when more reliable estimates of grossness in each of the states included in the study are available. It may also be possible that in some states, the grossness (total) may be even lower than that used in the present study. It may also be noted that as we approach UPE, the percentage of overage and underage children, as well as, the enrolment ratio (gross) will decline.

Note

1. At the time of commencement of the study, Education in India [Volume-I(S)] was available up to the year 1989-90 but subsequently, just before completion of the study, the volume for the year 1990-91 was also released. Similarly, after completion of trend analysis, 'Selected Educational Statistics' for the year 1993-94 was also released.

Chapter 4

Trend Analysis

Enrolment projections based on the trend analysis have been presented in the present chapter. The results are reported separately at the all-India level and for each of the fourteen major states included in the study.

4.1 All India Level

4.1.1 Retained Models

When enrolment at the Primary level (boys) is regressed on time 't' and relevant age-specific population 'P' (linear equation), it could explain 98.68 per cent variation. Compared to this, the second degree linear equation which assumed enrolment as a function of time 't', explained 98.70 per cent variation and both the coefficients are found either significant or with t-value more than one. Also, the Standard Error (SE) of the estimate is lower for the second degree linear equation. Further, by using both the equations, enrolment during the period 1966-67 to 1989-90 has been projected and the Mean Absolute Error (MAE) and Mean Square Error (MSE) calculated. It has been found that projections based on the second degree linear curve yielded more reliable estimates of enrolment at the Primary level (boys). Hence, equation (1) has been retained for projecting enrolment at the Primary level (boys) for the period 1990-91 to 2008-09. Whereas, at the Upper primary level, both for boys and girls, the second degree linear equation has been retained which explained more than 99 per cent variation in boys' and girls' enrolment and again both the variables have been found significant at one per cent level. Further, it has been observed that at the Primary level, the high variation explained by the model is due to the respective age-specific population. Individually when regressed on enrolment, they explained 96 and 88 per cent variation repectively in the Primary and Upper primary enrolment. The relevant ASP when it is regressed on Upper primary enrolment reveals that the same explained 93 and 97 per cent variation and both individually and together with time 't' have been found significant but due to lower value of 'R^2' the same could not be retained for making projections. Quite similar results are also obtained by Mehta (1994,1). Following the same methodology, a particular equation is retained for projecting Primary (girls), and Upper primary (boys and girls) enrolment (Statement I). It has been noticed that in all the equations which are retained, the variation explained is about

Statement I

List of Equations Retained for Enrolment Projections (Based on 1966-67 to 1989-90 Data : All India)

Primary (Boys)

$$Y = 31682957.7500 + \underset{(104181.6994)}{881999.8878^{*}t} + \underset{(4045.6752)}{4537.6385\,P} \qquad (1)$$

$R^2 = 0.9870$, df = 21, n = 24

Primary (Girls)

$$Y = \mathrm{EXP}\left(16.8791 + \underset{(0.0017)}{0.0334^{*}t} - \underset{(0.000000020)}{0.0000000045^{**}\,P}\right) \qquad (2)$$

$R^2 = 0.9913$, df = 21, n = 24

Upper Primary (Boys)

$$Y = 8063754.8260 + \underset{(48422.2554)}{174774.2206^{*}t} + \underset{(1880.3755)}{142660.3445^{*}\,t^2} \qquad (3)$$

$R^2 = 0.9903$, df = 21, n = 24

Upper Primary (Girls)

$$Y = 3063058.3460 + \underset{(23356.7391)}{101063.5411^{*}\,t} + \underset{(907.0094)}{10295.1490^{*}\,t^2} \qquad (4)$$

$R^2 = 0.9951$, df = 21, n = 24

---

* - Significant at 1 per cent level

** - Significant at 5 per cent level

- Figures presented in parenthesis below the coefficient value is the standard error of the estimate.

99 per cent; this shows that the models captured almost total variation in enrolment and only one per cent variation remained unexplained. Further, R^2 and 'F' statistics are also found to be significant. For Primary level (girls), the exponential equation has been retained which explained more than 99 per cent variation in enrolment. Coefficient of both the variables, namely, time 't' and age-specific population 'P' are significant at one per cent level of significance.

4.1.2 Projected Enrolment

Table 4.1 presents the projected enrolment at the Primary and Upper Primary levels of education at the all-India level for the period 1990-91 to 1992-93. The results reveal that the projected enrolment at the Primary level (boys) for the year 1990-91 is 58.09 million compared to the official 56.57 million which shows a deviation of only 1.52 million (2.62 per cent). Quite similar results are obtained for girls and the deviation noticed between the official and projected enrolment at the Primary level is only 0.14 million (3.32 per cent). Since official enrolment at all levels of education is available up to 1989-90 (Education in India, Volume I), for the period 1990-91 to 1992-93, provisional estimates of enrolment produced in the 'Selected Educational Statistics' are compared with the projected estimates. A perusal of these results reveal that the deviation between the two is insignificant. For the year 1990-91, the deviation between the official and projected enrolment of boys and girls at the Upper primary level is only 0.51 million (2.45 per cent) and 0.42 million (3.38 per cent) respectively. The MAE and MSE calculated for the period 1990-91 to 1992-93 are 2.78 and 5.78 and 9.96 and 9.01 respectively which again shows the reliability of the projections at the Upper primary level. Quite similar results are obtained for both the Primary and Upper primary levels for the remaining years. However, for the year 1992-93, the deviation noticed between actual and projected enrolment is large and significant which may be because of the fact that 'Selected Educational Statistics' itself provides provisional figures which are likely to change in the final official estimates, if the past trend is any indication, as a significant deviation is noticed in both the estimates. However, the 1992-93 Selected Statistics at least in the case of Madhya Pradesh presents data (primary level) of the 1993-94 Annual Plan

Table 4.1

Actual and Projected Enrolment at Primary and Upper Primary Levels of Education, All India: 1990-91 to 1992-93

(In Millions)

Year	*Primary (Boys)*		*Primary (Girls)*		*Upper Primary (Boys)*		*Upper Primary (Girls)*	
	*Actual**	*Projected*	*Actual**	*Projected*	*Actual**	*Projected*	*Actual**	*Projected*
1990-91	58.09	56.57 (2.62)	41.02	39.66 (3.32)	20.84	21.35 (2.45)	12.44	12.02 (3.34)
1991-92	59.22	57.68 (2.60)	42.36	40.91 (3.42)	21.45	22.25 (3.73)	12.99	12.65 (2.62)
1992-93	60.45	58.80 (2.73)	44.92	42.13 (6.21)	23.69	23.18 (2.15)	15.01	13.30 (11.39)
MAE		2.65		4.32		2.78		5.78
MSE**		6.81		5.85		9.96		9.01

* : Provisional figures taken from Selected Educational Statistics (different years), MHRD, New Delhi.

** : Based on first two years

Note : In the parenthesis, per cent deviation (absolute) has been presented. Quite similar results are obtained for the year 1993-94 for which data is recently released.

which is in fact data reported from the 1991-92 selected statistics whereas at the Upper primary level, data for some other year is reported. Similarly, for one of the other major states, namely West Bengal, enrolment at the Upper primary level increased from 2.74 million in the year 1991-92 to 4.60 million (+67.88 per cent) next year which is unrealistic. Similarly, state-wise enrolment at the Upper primary level when added together do not match well with enrolment at the all-India level. Hence, enrolment statistics for the year 1992-93, especially at the Upper primary level may be treated purely as tentative in nature and therefore, while computing the Mean Square Error (MSE), the year 1992-93 is dropped for the reasons mentioned above.

Table 4.2
Projected Enrolment (Grades I-V)
All India

(In Thousands)

Year *Year*	*Enrolment*	*Boys ASP (6-10)*	*GER (Percentage)*	*Enrolment*	*Girls ASP (6-10)*	*GER (Percentage)*
1992-93*	60454	52985	114.10	44916	49370	90.98
1993-94	59936	53595	111.83	43509	49942	87.12
1994-95	61077	54212	112.66	44869	50520	88.81
1995-96	62227	54836	113.48	46270	51104	90.54
1996-97	63386	54935	115.38	47816	51218	93.36
1997-98	64553	55034	117.30	49413	51331	96.26
1998-99	65730	55133	119.22	51064	51445	99.26
1999-2000	66916	55233	121.15	52770	51559	102.35
2000-01	68112	55332	123.10	54534	51673	105.54
2001-02	69315	55382	125.16	56369	51733	108.96
2002-03	70529	55433	127.23	58267	51794	112.50
2003-04	71751	55484	129.32	60228	51855	116.15
2004-05	72983	55535	131.42	62255	51916	119.91
2005-06	74223	55586	133.53	64351	51976	123.81
2006-07	75473	55636	135.65	66517	52037	127.83
2007-08	76731	55687	137.79	68756	52097	131.98
2008-09	77999	55737	139.94	71071	52158	136.26

Note: * Actual (includes 1991-92 enrolment for Madhya Pradesh and Assam).

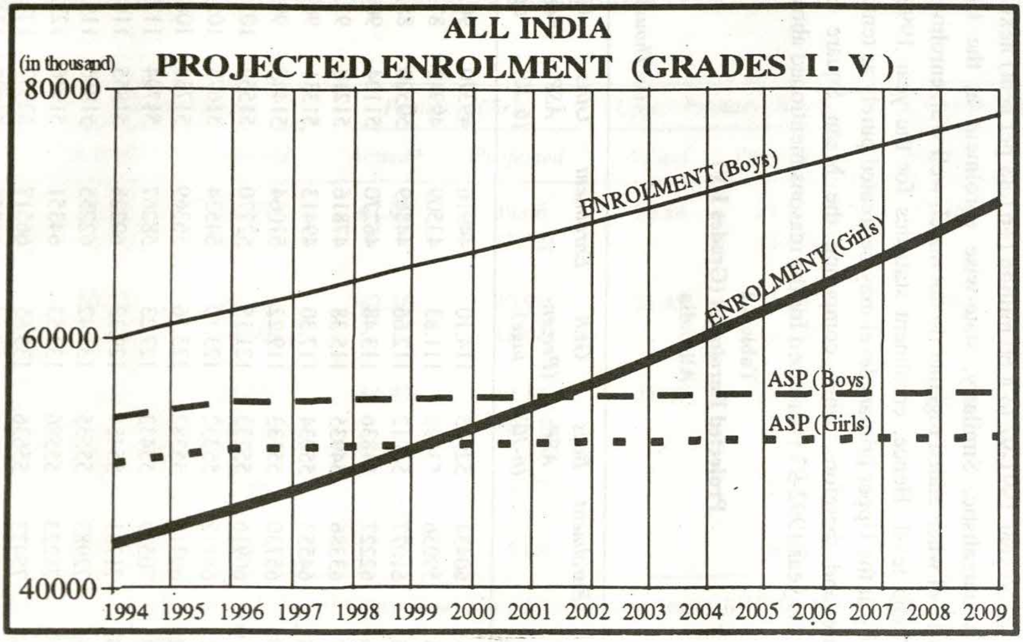
ALL INDIA
PROJECTED ENROLMENT (GRADES I - V)
(in thousand)
80000
60000
40000
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
ENROLMENT (Boys)
ENROLMENT (Girls)
ASP (Boys)
ASP (Girls)

Fig. 4.1

Thus, at all the levels of education, barring Upper primary level in the year 1992-93, it has been noticed that the deviation between the official and projected enrolment for the period 1990-91 to 1992-93 is found to be negligible both in absolute and percentage terms. Hence, equations 1 to 4 (Statement I) identified earlier are further retained for projecting enrolment between the period 1993-94 to 2008-09 and the same has been presented in Table 4.2 and 4.3. The results reveal that if the present trend continues, it is likely that enrolment at the Primary level (total) in the year 2001 would reach to 122.65 million

Table 4.3
Projected Enrolment (Grades VI-VIII)
All India

(In Thousands)

Year Year	*Enrolment*	*Boys ASP (11-13)*	*GER (Percentage)*	*Enrolment*	*Girls ASP (11-13)*	*GER (Percentage)*
1992-93*	23693	29515	80.27	14985	27577	54.34
1993-94	24142	30249	79.81	13964	28216	49.49
1994-95	25130	31002	81.06	14652	28870	50.75
1995-96	26147	31773	82.29	15361	29540	52.00
1996-97	27192	32008	84.95	16090	29780	54.03
1997-98	28265	32244	87.66	16839	30021	56.09
1998-99	29367	32482	90.41	17609	30264	58.18
1999-2000	30498	32722	93.20	18400	30510	60.31
2000-01	31657	32963	96.04	19212	30758	62.46
2001-02	32845	32986	99.57	20044	30788	65.10
2002-03	34061	33009	103.19	20896	30818	67.80
2003-04	35306	33032	106.88	21770	30848	70.57
2004-05	36579	33055	110.66	22663	30878	73.40
2005-06	37881	33078	114.52	23578	30908	76.28
2006-07	39211	33102	118.46	24513	30938	79.23
2007-08	40570	33125	122.48	25468	30968	82.24
2008-09	41958	33148	126.58	26445	30998	85.31

Note: * Actual (includes Madhya Pradesh Annual Plan figures for the year 1993-94).

and will further increase to 135.24 million in the year 2004-05 as against 54.53 and 62.26 million girls' enrolment during the same period, which is quite similar to the one obtained by Mehta (1994,1) using the time-series for the period 1965-66 to 1986-87. At the Upper primary level, enrolment (total) would increase from 30.89 million in 1989-90 to 50.87 million in the year 2000-01, which shows an increase of 4.64 per cent per annum, and would further increase to 59.24 million in the year 2004-05. The girls' enrolment in the year 2000-01 would increase to 19.21 million from 11.07 million in the year 1989-90 which shows an increase of 5.14 per cent per annum. When enrolment at the Primary and Upper primary levels in different years is added together to get elementary enrolment, it has been observed that an impressive trend will follow in both total and girls' enrolment. The enrolment at the Elementary level would increase from 123.24 million in the year 1989-90 to 173.52 million in the year 2000-01, which shows an increase of 3.09 per cent per annum. The corresponding share of girls' enrolment to total enrolment at the Elementary level which was 39.88 per cent in the year 1989-90 is likely to improve to 42.50 per cent in the year 2000-01 as against 60.12 and 57.50 per cent boys. This indicates that girls' share to total enrolment would increase in the years to follow, though it would still not be at par with boys. Hence, more rigorous efforts would have to be initiated to bring more and more girl children under the umbrella of education.

4.1.3 Projected Enrolment Ratio

The enrolment ratio (projected) at Primary and Upper primary levels of education during the period 1990-91 to 1992-93 and 1993-94 to 2008-09 have been computed and presented in Tables 4.2 to 4.4. For computing enrolment ratios, as mentioned, the Standing Committee (adjusted) estimates of projected population in the age-groups 6-10 and 11-13 years have been used. The age-group population produced in the MHRD publications (1990-91 to 1992-93) have not been utilised because of the significant deviation which has been noticed compared to the Standing Committee estimates.

Table 4.4 reveals that the difference between the official and projected enrolment ratio (gross) at the Primary level during the period 1990-91 to 1992-93 is small; the same is also true for enrolment at the

Upper primary level. As against the official ratio of 112.18 per cent in the year 1990-91, the projected enrolment ratio at the Primary level (boys) is 109.23 per cent, and the corresponding figure for girls is 85.02 per cent official as against 82.20 per cent projected. Further, it has been estimated that the projected enrolment ratio at the Primary level (boys) would increase to 123.10 per cent in the year 2000-01 and further to 131.42 per cent in the year 2004-05. Similarly, the girls' enrolment at the Primary level would increase to 105.54 per cent in the year 2000-01 which is further likely to go up to 119.91 per cent in the year 2004-05. Further, the enrolment ratio at the Upper primary level indicates that it would also improve significantly. However the improvement would not be as impressive as in Primary enrolment. The girls' enrolment ratio would increase from the existing 54.34 per cent in the year 1992-93 to 62.46 per cent in the year 2000-01 and is further likely to increase to 73.40 per cent in the year 2004-05.

Table 4.4
Official and Projected Enrolment Ratios
All India: 1990-91 to 1992-93

(In Percentages)

Year	*Primary (Boys)*		*Primary (Girls)*		*Middle (Boys)*		*Middle (Girls)*	
	Official	*Projected*	*Official*	*Projected*	*Official*	*Projected*	*Official*	*Projected*
1990-91	112.18	109.23	85.02	82.20	74.16	75.98	47.22	45.63
1991-92	113.05	110.12	86.79	83.81	74.48	77.26	48.23	46.94
1992-93	114.10	110.99	90.98	85.46	80.27	78.55	54.34	48.22

Another way of projecting the enrolment ratio is fitting of trend by assuming enrolment ratio as a function of time instead of independent projections of enrolment. One such exercise has been undertaken recently by Mehta (1994,1). The results reveal that the enrolment ratio at the Elementary level (total) in the year 2005 would be 119.19 per cent which compares well with the projected enrolment ratio (120.93 per cent) based on the second degree curve assuming enrolment as a function of time. However, projections based on simple trend analysis,

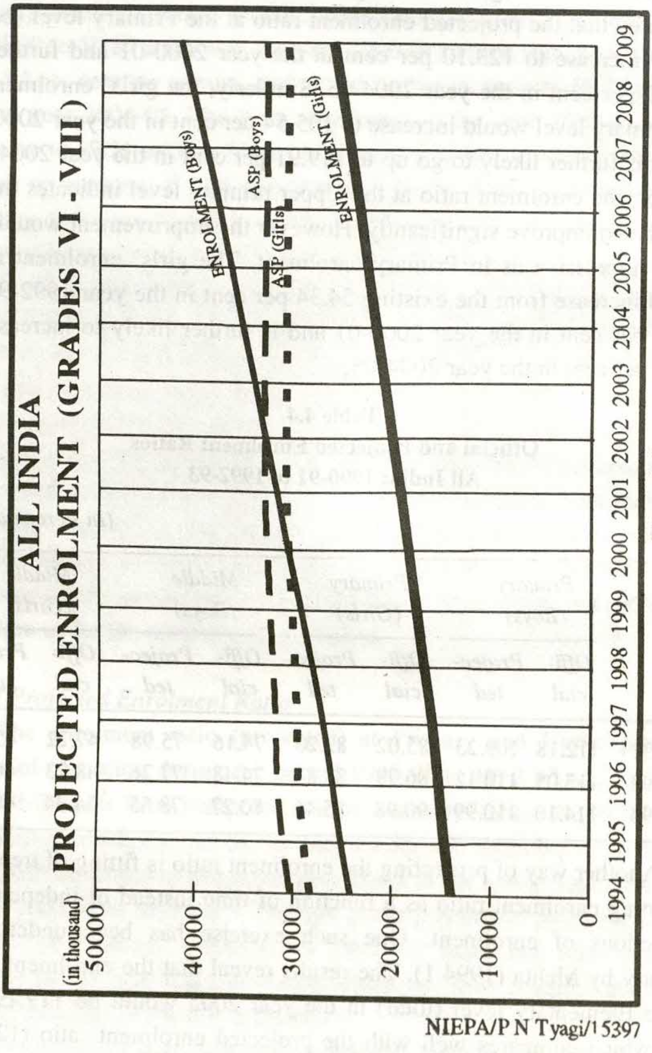

Fig. 4.2

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assuming enrolment ratio as a function of time, is not statistically sound to retain for projections. Also, it is always better to project enrolment ratio based on the projected enrolment itself. Similar results are obtained for Elementary (girls) and Primary (total) levels of education. However, projected enrolment ratios (gross) for Primary (girls) level did not match with the other set of projections. Hence, projected enrolment ratios are not retained for further analysis. However, it would be better, if the projections are based on 'student cohort' technique and enrolment ratios are calculated.

4.1.4 Likely Year of Achievement of UPE/UEE

Recently, Mehta (1993,2) while projecting the likely year of achievement of UPE and UEE at the all-India level, assumed 22 per cent as an estimate of overage and underage children, and enrolment ratios for the years 1981-82 and 1989-90 were refined accordingly. The population correction factor was also applied. The amount of GER to achieve a target of 100 per cent NER was obtained by the unitary method and the exponential rate of growth of enrolment ratio (refined) during the period 1981-1989 computed. At the all-India level, about 129 per cent GER (including those of overage and underage children) is required to achieve the requisite target. Applying the same rate of growth of enrolment ratio (refined), the number of years was computed. The same methodology was applied to enrolment at the Primary and Upper primary levels. The results reveal that the goal of UEE is not likely to be achieved before the year 2006. Further, it is revealed that the target of 129 and 128 per cent GER respectively at the Primary and Upper primary levels of education at the current rate of growth is unlikely to be achieved before the year 2001 and 2010 respectively. The results highlight that the goal of UPE at the all-India level is not very far but at the Upper primary level, the likely scenario is not encouraging. One of the limitations in these projections is that the enrolment as such has not been projected and projections are simply based on the assumption that the rate of growth in the enrolment ratio would continue in the future. In the another study, Mehta (1994,1) independently projected enrolment which conforms to his earlier findings.

In the present study, 24.08 (boys) and 23.15 (girls) per cent at the Primary and 17.08 (boys) and 13.32 per cent (girls) at the Upper primary level has been considered as an estimate of grossness and refined enrolment ratios are worked out (Table 4.5). The results reveal that both at the Primary and Upper primary levels of education, a large deviation has been noticed between projected and refined enrolment ratios. The refined enrolment ratio (boys) at the Primary level shows that it was only 86.62 per cent in the year 1992-93 compared to 114.10 per cent actual and will increase to 93.46 per cent in the year 2000-01 and to 101.38 per cent in the year 2005-06. This clearly indicates that it is not likely for India to achieve the goal of UPE (boys) before the year 2005 as against the official target of 2001 which is quite close to the findings of earlier studies. The same is also true for education of girls at the Primary level where the enrolment ratio (refined) would be only 81.11 per cent in the year 2000-01; but would increase to 101.43 per cent in the year 2007-08. Evidently, more attention would be needed on education of girls. Thus, it seems that without bringing all the girl children under the umbrella of education, the goal of 'Education for All' would continue to be elusive. For this, it is crucial to involve the rural women of the area. There are instances where Mahila Samuhs, constituted in remote villages, have ensured the regularity of the school functioning, availability of teachers and attendance of the enrolled children (Appraisal Mission Report of Bihar Education Project, 1994). The refined enrolment ratio at the Primary level is slightly more than hundred which indicates that either the correction factor applied to eliminate overage and underage children itself is an under-estimate or the corresponding age-specific population is so. Or the estimates of grossness in the future would also increase with increase in enrolment. Compared to the Primary level, the status of Upper primary education is found to be dismal as the refined enrolment ratio (boys) in the year 2007-08 would be 101.56 per cent compared to only 73.95 per cent in the year 2008-09 for girls. Thus, under the assumption of continuation of past trends in the future, it is concluded that UPE in the country is likely to be achieved sometime near the year 2007-08, but the goal of UEE is not right in the sight which is mainly due to the dismal status of girls' education at the Upper primary level. A more clear picture would emerge when the exercise is repeated at the state level. Hence, the present projections are tentative in nature. Thus, rigorous efforts are needed with respect to education of girls at all levels which means that

Table 4.5
Refined Enrolment Ratio at Primary and Upper Primary Levels of Education
All India: 1992-93 to 2008-09

(In Percentages)

Year	*Primary (Boys)*		*Primary (Girls)*		*Middle (Boys)*		*Middle (Girls)*	
	Projected	*Refined*	*Projected*	*Refined*	*Projected*	*Refined*	*Projected*	*Refined*
1992-93	114.10	86.62	90.98	69.92	80.27	66.56	54.34	47.10
1993-94	111.83	84.90	87.12	66.95	79.81	66.18	49.49	42.90
1994-95	112.66	85.53	88.81	68.25	81.06	67.21	50.75	43.99
1995-96	113.48	86.15	90.54	69.58	82.29	68.23	52.00	45.07
1996-97	115.38	87.60	93.36	71.75	84.95	70.44	54.03	46.83
1997-98	117.30	89.05	96.26	73.98	87.66	72.69	56.09	48.62
1998-99	119.22	90.51	99.26	76.28	90.41	74.97	58.18	50.43
1999-2000	121.15	91.98	102.35	78.66	93.20	77.28	60.31	52.28
2000-01	123.10	93.46	105.54	81.11	96.04	79.64	62.46	54.14
2001-02	125.16	95.02	108.96	83.74	99.57	82.56	65.10	56.43
2002-03	127.23	96.59	112.50	86.46	103.19	85.57	67.80	58.77
2003-04	129.32	98.18	116.15	89.26	106.88	88.62	70.57	61.17
2004-05	131.42	99.77	119.91	92.15	110.66	91.76	73.40	63.02
2005-06	133.53	101.38	123.81	95.15	114.52	94.96	76.28	66.12
2006-07	135.65	102.99	127.83	98.24	118.46	98.23	79.23	68.68
2007-08	137.79	104.61	131.98	101.43	122.48	101.56	82.24	71.29
2008-09	139.94	106.24	136.26	104.72	126.58	104.96	85.31	73.95

Note: Refined enrolment ratios have been computed on the basis of 24.08 (Boys), 23.15 (Girls) at the Primary and 17.08 (Boys) and 13.32 (Girls) at the Upper primary levels.

the transition rate from the Primary to Upper primary level of education would have to be improved further. For this purpose, the existing infrastructural facilities available in schools would have to be fully utilised and incentives to children would have to be provided in addition to what has already been provided. Efforts have already been initiated in this direction with the implementation of a number of projects sponsored by the donor agencies in general and World Bank assisted District Primary Education Programme (DPEP) in particular. Also, in about 400 districts, the total literacy campaigns (TLC) have been launched which would also help in bringing more children into the system.

4.2 State Level

The results of the trend analysis carried out in fourteen states are presented below.

4.2.1 Andhra Pradesh

The time-series on enrolment which has been constructed for the period 1966-67 to 1992-93 reveals that both at the Primary and Upper primary levels of education, enrolment has increased impressively. Further, it has been observed that a consistent increase has taken place throughout the period and no ups and downs have been noticed in enrolment which is also true in the case of age-specific population i.e. 6-10 and 11-13 years. The compound growth rate which has been computed shows that at the Primary level enrolment increased at the rate of 2.54 and 3.09 per cent per annum respectively for boys and girls. In absolute terms, girls' enrolment at the Primary level increased from 1.55 million in the base year i.e. 1966-67 to 3.42 million in the year 1992-93. Compared to the increase in enrolment at the Primary level, rapid increase in enrolment at the Upper primary has been noticed and the growth rates computed during the same period are 4.23 and 6.33 per cent respectively for boys and girls. Following the methodology described in Chapter 3, regressions are run by assuming enrolment 'Y' as a function of time 't' and age-specific population (ASP) 'P'. In the case of boys, enrolment at the Primary level, the linear equation has been retained for making projections which explained more than 95 per cent variation in enrolment and both the variables included in the model, namely, 't' and 'P' are significant at 1 and 10 per cent levels respectively. For projecting girls' enrolment also, the linear equation has been retained which explained about 95 per cent variation in enrolment and one of the variables, namely, time 't' is found significant and the other variable 'P' has a 't' value more than one. At the Upper primary level, for projecting boys' enrolment, the exponential model which explained 92 per cent variation in enrolment has been retained and both the variables, namely, 't' and 'P' are found significant at 1 per cent level whereas for girls, the second degree exponential has been retained ($R^2 = 0.99$). The coefficient of determination (R^2) and regression coefficients are presented in Tables 4.20 to 4.23.

The projected enrolment (boys) in absolute form (Table 4.6) shows that at the Primary level, it would increase from the existing 4.42 million in the year 1992-93 to 5.10 million in the year 2000-01 and is further likely to increase to 5.57 million by the year 2004-05. Compared to this, girls' enrolment would increase to 3.92 million in the year 2000-01 from the existing 3.42 million and would further increase to 4.31 million by the end of the year 2004-05, thus showing an increase of 2.93 per cent per annum during the period 1992-93 to 2000-01. The enrolment ratio (boys) at the Primary level would also increase from the existing 113.12 per cent to 119.61 per cent in the year 2000-01. However, girls' enrolment ratio at the Primary level is projected to be only 96.60 per cent in the year 2000-01 and would further improve to 107.91 per cent in the year 2004-05. The projected enrolment in the Upper primary classes both in the absolute and ratio form would continue to grow and reach 83.96 and 56.91 per cent in the year 2000-01 from the existing 68.22 and 43.50 per cent in the year 1992-93 respectively for boys and girls. A perusal of results further reveal that the share of girls' enrolment at the Upper primary level would increase from the existing 38.04 per cent in the year 1992-93 to 40.15 per cent in the year 2004-05. However, at the Primary level, girls' share would remain almost constant which means that enrolment of both boys and girls would continue to grow almost at the present rate.

Thus, keeping in view the projected enrolment ratio in future and by considering 23.71 per cent at Primary and 15.78 per cent at the Upper primary level as an estimate of total grossness, except at the

Primary level for boys, it would not be possible for Andhra Pradesh to attain the status of UPE/UEE in the near future and the same would be possible sometime in the year 2004-05 when the GER (boys) will reach 132.28 per cent. The GER (girls) at the Primary level would reach 119.64 per cent by the end of the year 2008-09. For boys, also at the Upper primary level, if determined efforts are made, the goal of UEE can be achieved sometime after the year 2008-09. Perhaps, the DPEP programme which is under implementation in twelve districts of the state may further accelerate the rate of growth in enrolment.

4.2.2 Bihar

Following the same methodology adopted at the all-India level, enrolment is projected for Bihar for which the time-series data during the period 1966-67 to 1992-93 has been used. During this period, enrolment (boys) at the Primary level has consistently increased from 3.01 million in the year 1966-67 to 5.88 million in the year 1992-93 showing compounded increase of 2.61 per cent per annum compared to 4.32 per cent for girls. The corresponding age-specific population used in the official documents have also been consistently increased up to the year 1980-81 in the case of boys and 1981-82 in the case of girls; thereafter throughout the period, the series has many ups and downs. Therefore, both at the Primary and Upper primary levels of education, the Standing Committee estimates of age-specific population have been used for the period 1985-86 to 1989-90 in addition to the period 1990-91 to 2008-09. Similarly, boys' and girls' enrolment during the same period at the Upper primary level increased at the rate of 3.52 and 7.03 per cent per annum but a number of ups and downs, especially in the case of girls' enrolment, have been noticed. As against enrolment (girls) of 0.24 million in the year 1975-76, it fell to 0.19 million next year which is short by 20.83 per cent. Therefore, enrolment in some years have been adjusted by taking moving averages.

For making projections and by adopting the criterion, second degree linear and exponential equations have been retained for the enrolment of boys and girls at the Primary level each of which explained more than 96 per cent variation in enrolment and coefficients of both the variables, namely, 't' and 't^2' are either found significant at one per cent or t-value more than one. Likewise, at the Upper primary level, the exponential equation has been retained for enrolment projections which explained 98 per cent variation in both boys' and girls' enrolment and coefficients of variables included in the model, namely, time 't' and ASP 'P' have been found significant at one per cent. The projected enrolment has been presented in Table 4.7 which shows that at the Primary level (boys) it will increase from the existing 5.88 million in the year 1992-93 to 6.69 million in the year 2000-01 compared to 3.01 million to 3.91 million in the case of girls. The analysis of enrolment ratio (boys) at the Primary level indicates that it would be 101.23 per cent in the year 2000-01 compared to which for girls, it would be only 63.90 per cent but is further likely to improve to 66.75 per cent in the year 2004-05 and to 68.23 per cent in the year 2008-09. Compared to the Primary level (101.23 per cent), the enrolment ratio (boys) at the Upper primary level would be only 62.35 per cent in the year 2000-01 as against 34.49 per cent for girls which also include a large number of overage and underage children. The share of girls' enrolment to total enrolment at the Primary and Upper primary levels in the year 2000-01 would be only 37.55 and 33.88 per cent respectively which will make the task difficult, if not impossible. Thus, if the past trend is an indication, the goal of UPE/UEE is still far out of the sight in Bihar and the goal is likely to remain elusive for many many more years. The DPEP Programme which is under implementation in seven old Bihar Education Project (BEP) and ten new districts may accelerate growth in enrolment, if the same is implemented in the rest of the districts. The UNICEF and the Government of India Appraisal Mission (1994) observed that in seven BEP districts enrolment has increased considerably but due to a high drop-out rate, a large number of children who were admitted in Grade I dropped out before they reach Grade II which suggests that unless the drop-out rate is curtailed to a significant level, Bihar cannot achieve the goal of UPE. Thus, till Bihar attains the status of universal primary enrolment, India cannot achieve the goal of EFA. However, grade-wise projections would throw more light on the future course of enrolment and would also help to identify the causes of this dismal picture.

4.2.3 Gujarat

The time-series which has been constructed for the state of Gujarat shows that at both the levels of education, a considerable increase in enrolment during the period 1966-67 to 1992-93 has taken place, but increase in enrolment at the Upper primary level is more rapid. Enrolment at the Primary level (boys) increased from 1.77 million in the year 1966-67 to the existing 3.41 million showing a compound rate of growth of 2.46 per cent per annum compared to 3.50 per cent in girls' enrolment. During the same period, corresponding boys' and girls' enrolment at the Upper primary level increased at the rate of 4.08 and 5.18 per cent per annum respectively. The higher rate of growth at the Upper primary level is due to the low base compared to enrolment at the Primary level. The corresponding age-specific population has also considerably increased, though the rate of growth in population is slower than the rate of growth in enrolment which is different from a majority of other states. This has resulted in a rapid increase in the enrolment ratio (gross) barring girls' enrolment at the Upper primary level.

For projecting enrolment, the linear equation has been retained which explained more than 93 and 99 per cent variation respectively in boys' and girls' enrolment at the Primary level. For boys, age-specific population 'P' has found a place in the retained model while time 't' is retained in the other model. At the Upper primary level, second degree linear model for boys and linear equation for girls have been retained for making projections which explained more than 99 and 98 per cent variation in enrolment and coefficients of all the variables included in the model are found significant. The projected enrolment (Table 4.8) at the Primary level (boys) indicates that it would increase from the existing 3.40 million to 3.47 million by the beginning of the next century and is further likely to increase to 3.64 million in the year 2004-05. Also, in the case of girls, enrolment at the Primary level would increase from the existing 2.58 million to 3.04 million in the year 2000-01 showing a compounded rate of 2.07 per cent per annum. Likewise, enrolment at the Upper primary level would also increase significantly. If we analyse the growth of projected enrolment in terms of enrolment ratio, the same at both levels of education would increase significantly barring girls' enrolment at the Upper primary level whereas it would be only 64.59 per cent in the year 2000-01 compared to the existing 57.93 per cent. However, the same would improve to 84.05 per cent in the year 2008-09. Thus, based on the estimates of 23.71 and 15.78 per cent grossness (total) at the Primary and Upper primary levels, it is expected that Gujarat would achieve the goal of UPE sometime after the year 1995-96 in the case of boys and in the year 2006-07 in the case of girls. Similar to the Primary level, all boys of age-group 11-13 years would be in Upper primary classes sometime between the years 2003-04 and 2004-05. However, girls of age-group 11-13 years would still take a longer period to attain the status of universal elementary education.

4.2.4 Haryana

The time-series which has been constructed for the state of Haryana shows a considerable increase in enrolment both at the Primary and Upper primary levels of education. Both enrolment and age-specific population has increased but at different paces. The enrolment (boys) at the Primary level increased from 0.58 million in the year 1966-67 to 0.98 million in the year 1992-93 showing an increase of 2.01 per cent per annum on a compound basis compared to which the increase in girls' enrolment is 5.04 per cent. During the same period, the increase in boys and girls enrolment at the Upper primary level is 3.38 and 7.02 per cent respectively. The time-series further reveals that the share of girls' enrolment to that of the total Primary enrolment increased from 28.02 per cent in the year 1966-67 to 45.42 per cent in the year 1992-93. The corresponding percentages at the Upper primary level are 20.74 and 39.13 per cent respectively.

By taking moving averages in the year 1990-91, the time-series has been smoothened which is otherwise fairly consistent. For making projections, the linear equation has been retained for both boys' and girls' enrolment at the Primary level and variable 't' has been found significant. In both the cases, the model explained more than 96 per cent variation in enrolment. However, the exponential equation with both the variables 't' and 'P' in the model in the case of boys and exponential equation with variable 'P' in the case of girls has been retained for making projection at the Upper primary level. In both the cases, the variation explained in enrolment is quite high.

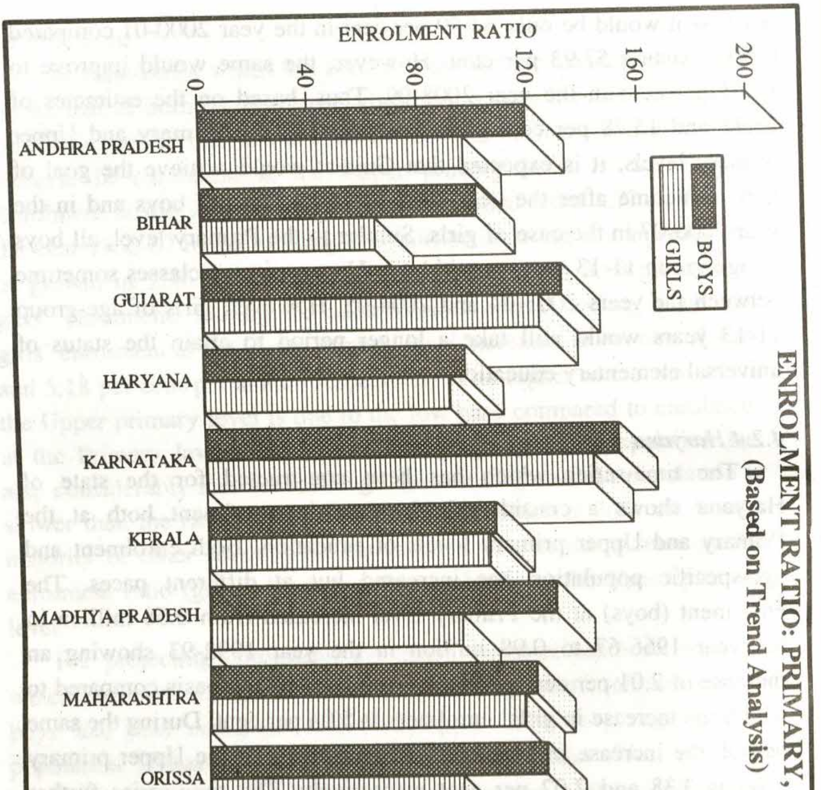

ENROLMENT RATIO: PRIMARY, 2001
(Based on Trend Analysis)
ENROLMENT RATIO
0
40
80
120
160
200
BOYS
GIRLS
ANDHRA PRADESH
BIHAR
GUJARAT
HARYANA
KARNATAKA
KERALA
MADHYA PRADESH
MAHARASHTRA
ORISSA
PUNJAB
RAJASTHAN
TAMIL NADU
UTTAR PRADESH
WEST BENGAL
NIEPA/P N Tyagi/15497

Fig. 4.3

The projected enrolment (Table 4.9) shows that at both the levels of education, it would continue to grow both in absolute and ratio forms. From an existing 0.97 million enrolment (boys) in the year 1992-93, it would increase to 1.15 million by the end of the year 2000-01 and is further likely to increase to 1.22 million in the year 2004-05. Likewise, girls' enrolment in Haryana would also increase at the rate of 2.23 per cent per annum during the period 1992-93 to 2000-01. Table 4.9 further reveals that boys' and girls' enrolment during the same period at the Upper primary level would increase at the rate of 4.26 and 7.31 per cent per annum respectively. The girls' share to total enrolment at the Primary and Upper primary levels of education in the year 2000-01 would be 45.78 and 44.71 per cent respectively. Further, the results reveal that the enrolment ratio at both the levels of education would also improve significantly, though the same for girls at the Upper primary level would not be as impressive as in the case of boys. The girls' enrolment ratio would be only 80.62 per cent in the year 2000-01 and is likely to further improve to 74.88 per cent by the end of the year 2008-09.

Thus, if the past trend continues, it would not be possible for Haryana to achieve the goal of UPE/UEE in the near future. However, if determined efforts are made both at the Primary and Upper primary levels, the present trend may be reversed and the goal of UPE/UEE for boys can become a reality in the near future which is otherwise a remote possibility. But certainly, more rigorous efforts are needed for the upliftment of girls' education in the state especially at the Upper primary level.

4.2.5 Karnataka

The time-series which has been constructed for the state of Karnataka shows that the base year (1966-67) enrolment in the case of boys was itself very high (GER, 99.90 per cent) compared to girls' enrolment and enrolment at the Upper primary level and the same has further consolidated its position over a period of time. In the base year 1966-67, both enrolment and age-specific population (boys) were exactly the same (1.82 million). Still, the rate of growth (1966-67 to 1992-93) in enrolment (girls) was as high as 2.79 per cent but for boys it was only 2.15 per cent per annum. Compared to this, the rates of growth in boys' and girls' enrolment during the same period at the Upper primary level are 5.50 and 3.87 per cent per annum respectively. At the Upper primary level, in the base year 1966-67, a little less than one third of the total boys of age-group 6-10 years were in the schools as compared to about one fifth girls both of which have now improved significantly. So far as the share of girls to total enrolment is concerned, the same has increased from 42.69 and 32.13 per cent in the year 1966-67 to 46.83 and 41.89 per cent respectively in the year 1992-93. Further, it has been observed that the time-series at both the levels of education is fairly consistent. However, as per the Standing Committee estimates (adjusted), population of age-group 6-10 years would increase up to the year 1995-96 and thereafter it would decline. Similarly, population of age-group 11-13 years would also decline in the year 2001-02 and thereafter.

For making enrolment projections, the linear model ('t' and 'P') at the Primary level for both boys and girls, has been retained which explained about 99 and 97 per cent variation in enrolment and coefficients of both the variables have been found significant at 1 per cent. At the Upper primary level also, the linear model has been retained for both boys' and girls' enrolment which explained more than 96 and 93 per cent variation in the endogenous variable and coefficients are found to be significant. The projected enrolment during the period 1993-94 to 2008-09 has been presented in Table 4.10. The results reveal that at both the levels of education, enrolment will continue to increase in the years which follow. However, as mentioned earlier, the corresponding age-specific population would fall slightly in the later years but the same would not significantly affect the enrolment ratio which would continue to grow. More specifically, a rapid increase in a enrolment ratio (gross) is expected especially at the Primary level. The boys' and girls' enrolment ratio at the Primary level in the year 2000-01 would be 151.17 and 141.93 per cent respectively as against 84.19 and 65.25 per cent at the Upper primary level. Thus, if the past trend continues, it is projected that Karnataka would be amongst the few states in the country which would attain the goal of Universal Primary Enrolment in the near future. Further, if the grossness is considered 23.71 per cent, all boys of age-group 6-10 years would be under the umbrella of education sometime in the year 1996-97 and girls would also follow their boys counterparts in the year 1998-99. However, universalisation of girls' education in the age-group 11-13 years in the state is not in sight but the same can be obtained for boys just after the year 2008-09 when GER would reach to about 118.80 per cent compared to which girls' ratio would be only 93.22 per cent.

4.2.6 Kerala

So far as the growth of enrolment is concerned, in Kerala, the situation is quite different from other states whereas it has been observed that over a period of time, boys' enrolment declined from 1.59 million in the year 1966-67 to 1.55 million in the year 1992-93. However, in the initial years it increased up to the year 1971-72 at the compounded rate of 2.40 per cent per annum, thereafter it started declining. The corresponding age-specific population also increased up to the year 1975-76 and thereafter it declined consistently with few exceptions in between. Compared to boys' enrolment at the Primary level, girls' enrolment has slightly improved from 1.41 million in the year 1966-67 to 1.47 million in the year 1992-93 showing a meagre growth of 0.16 per cent per annum. However, in between, the same has increased at a faster rate. Till recently, it was 1.56 million in the year 1989-90, and then declined to 1.49 million in the year 1991-92. The time-series further reveals that enrolment at the Upper primary level has increased consistently and the rate of growth computed during the period 1966-67 to 1992-93 comes out to be 2.70 and 3.27 per cent per annum respectively for boys and girls. Thus, both in absolute and percentage terms, only a little growth has taken place in enrolment at the Primary level which may also reflect in fitting of the model and even produce lower value of coefficient of determination.

When enrolment at the Primary level is regressed on time 't' and ASP 'P', the model could explain only a little more than 34 and 28 per cent variation in boys' and girls' enrolment respectively. Other models, such as, logarithmic, reciprocal, exponential and power were also tried but the highest variation explained was again 35 and 29 per cent. Therefore, the exponential equation with variables 't' and 'P' in the model has been retained for both boys' and girls' enrolment at the Primary level and coefficients of both the variables are found significant. Thus, the low value of R^2 indicates that majority of variation in the enrolment at the Primary level in Kerala is explained by other exogenous variables other than 't' and 'P', however both of which are retained in the model and have a significant impact on the dependent variable i.e. enrolment. Thus, variables such as, infrastructural facilities, quality of teachers, parental educational background and impact of high literacy and TLC on enrolment may be some of the other variables which may also be included in the model in any future study of this nature especially at the Primary level. However, at the Upper primary level, for both boys and girls, the model explained more than 96 and 97 per cent variation in enrolment and the linear equation with variables, 't' and 'P' has been the retained. Thus, in sharp contrast to enrolment at the Primary level, at the Upper primary level both the variables included in the model could explain the majority of the variation in enrolment.

The projected enrolment (Table 4.11) indicates that over a period of time boys' enrolment at the Primary level would decline, but, the decline would not be sharp. The existing enrolment (1.55 million, boys) would decline slightly to 1.54 million in the year 2004-05 which shows that it would remain almost static. On the other hand, girls' enrolment at the Primary level would increase slightly from the existing 1.47 million in the year 1989-90 to 1.48 million in the year 2000-01 and thereafter the same will remain almost constant till the year 2008-09. The enrolment ratio is also likely to decline which is because of the fact that the relevant age-specific population would decline in the initial period but would again look up soon after the year 2001-02. The boys' and girls' enrolment ratio at the Primary level would be 105.73 and 103.28 per cent respectively in the year 2000-01. The GER at the Upper primary level is expected to be 120.21 and 122.31 per cent in the year 2000-01 respectively for boys and girls compared to the existing 110.65 and 108.01 per cent in the year 1992-93. As mentioned, the estimates of overage and underage children available at the all-India level may not be applicable at the state level in general and Kerala in particular. Therefore, it is not possible to make projections of the likely year of achievement of UPE in the state. However, at the Upper primary level, if the estimate of overage and underage children is considered around 15.78 per cent, all children of the age-group 11-13 years would be in schools by the turn of the present century.

4.2.7 Madhya Pradesh

One of the important states, if the goal of education for all in the country is to be realised is the state of Madhya Pradesh which has about 8 per cent population (1992-93) in each of the age-groups 6-10 and 11-13 years. The time-series on enrolment during the period 1966-67 to 1992-93 indicates that enrolment has considerably increased up to the year 1990-91 with few exceptions and thereafter it has declined. The enrolment (boys) at the Primary level increased from 2.13 million in the year 1966-67 to 4.81 million in the year 1991-92 showing an increase of 3.32 per cent per annum compared to which the rate of growth in girls' enrolment is 5.89 per cent. The rate of growth in enrolment calculated at the Upper primary level is 5.22 and 7.48 per cent respectively in the case of boys and girls. The time-series further reveals that the share of girls' enrolment to total enrolment at the Primary and Upper primary level was 27.27 and 21.02 per cent in the year 1966-67 which has further improved to 40.95 and 31.17 per cent in the year 1991-92.

Before regressions are run, the series has been smoothened by using moving averages in the years where ups and downs are noticed. Also, it has been observed that at the Primary level, for two years namely, 1991-92 and 1992-93, the data reported in the MHRD publications is exactly the same; hence while running the regressions, year 1992-93 has been dropped. In the year 1992-93, enrolment increased by 23.01 (boys) and 53.01 (girls) per cent from their previous year level which looks unrealistic, if past trend is an indication. It has also been noticed that at the Upper primary level, for the year 1992-93, enrolment relating to the annual plan (1993-94) has been reported. Hence, at the Upper primary level, data for the year 1992-93 is not used in carrying out regressions. For projecting enrolment at the Primary level, both for boys and girls, the linear model with age-specific population 'P' and time 't' is retained which explained more than 96 and 95 per cent variation in enrolment and coefficient of variables included in the model have been found significant at 1 per cent level. Similarly at the Upper primary level, the linear model with time 't' as exogenous variable has been retained for making enrolment (boys) projections while second degree linear model with time 't' is retained for projecting girls' enrolment both of which explained about 75 and 98 per cent variation in enrolment.

The projected enrolment (Table 4.12) reveals that both at the Primary and Upper primary levels of education, it would continue to increase in the years to come. The corresponding enrolment ratio would also continue to grow. However, the increase would be very slow at the Upper primary level, more specifically in the case of education of girls. The projected enrolment further reveals that boys' enrolment at the Primary level during the period 1991-92 to 2001-02 would increase at the rate 2.45 per cent per annum compared to 2.20 per cent increase in girls' enrolment. Further, the enrolment ratio (boys) at the Primary level indicates that it would increase from the existing 109.00 per cent in the year 1991-92 to 127.76 per cent in the year 2000-01 and would further increase to 139.94 per cent in the year 2004-05. However, increase in enrolment ratio for girls would not be as impressive as that of boys and the same would be about 93.05 and 105.33 per cent in the years 2000-01 and 2004-05 respectively. Further, the enrolment ratio at the Upper primary level reveals that for both boys and girls, it would improve slightly from the existing 71.56 and 36.25 per cent in the year 1991-92 to 79.30 and 49.77 per cent in the year 2000-01. Thus, in view of likely status of future enrolment in the state, it is projected that the goal of UPE for boys may be realised sometime between the years 2001-02 and 2002-03, if the estimate of grossness is considered 23.71 per cent. Also, for girls of the age-group 6-10 years, the goal may be achieved just after the year 2008-09 for which girl-focussed programmes would have to be chalked-out and implemented in the state. Programmes of empowerment of women, like 'Mahila Samakhya', constitution of Village Education Committees for mobilisation of community participation etc. would pave the way for achieving the goal in the state. However, at the Upper primary level, for both boys and girls, the goal would continue to remain elusive for a long period. If enrolment projection exercises are carried-out at the district level in the state, the same would help in identifying educationally backward areas both in educationally advanced and backward districts.

4.2.8 Maharashtra

Like Gujarat, the time-series on enrolment in Maharashtra is also consistent with a few exceptions and considerable growth both in absolute and ratio form has taken place in enrolment at the Primary and

Upper primary levels of education. Throughout the period 1966-67 to 1992-93, enrolment at the Primary level has increased consistently without any dips in between. However, since the base itself was very large, the impressive growth did not reflect in growth rates (at primary level) which are computed to be 2.24 and 3.43 per cent per annum compared to 3.56 and 5.85 per cent at the Upper primary level respectively for boys and girls. At the Upper primary level, boys' enrolment in the years 1970-71 and 1972-73 declined from its previous year levels. Therefore moving averages are used to make the time-series consistent. Similarly, girls' enrolment in the year 1991-92 has also been adjusted.

For projecting enrolment, the second degree linear model for boys and linear model with ASP 'P' in the model has been retained for projecting girls' enrolment at the Primary level. Both the models explained about 98 per cent variation in enrolment. The linear model has also been retained for enrolment projections for both boys and girls at the Upper primary level and variables 't' and 'P' are found significant and model explained about 96 and 97 per cent variation in enrolment. A perusal of projected enrolment (Table 4.13) at the Primary level indicates that enrolment would continue its upward trend but due to likely increase in age-specific population, the same would not be reflected in the enrolment ratio which in fact would decline marginally. Assuming that the present trend would continue in the future, the enrolment in absolute terms would increase from the existing 5.82 million in the year 1992-93 to 6.07 million in the year 2000-01 compared to 5.49 million from 5.10 million girls in the year 1992-93. The per cent share of girls at the Primary level in the year 2000-01 would be 47.51 compared to the existing 46.71 per cent. The results further reveal that at the Upper primary level, both enrolment and enrolment ratio would improve in the following years. The existing enrolment ratio for boys (90.72 per cent) would touch 100.20 per cent in the year 2003-04 as compared to 88.27 per cent in the year 2008-09 for girls at the Upper primary level from the existing 69.69 per cent in the year 1992-93.

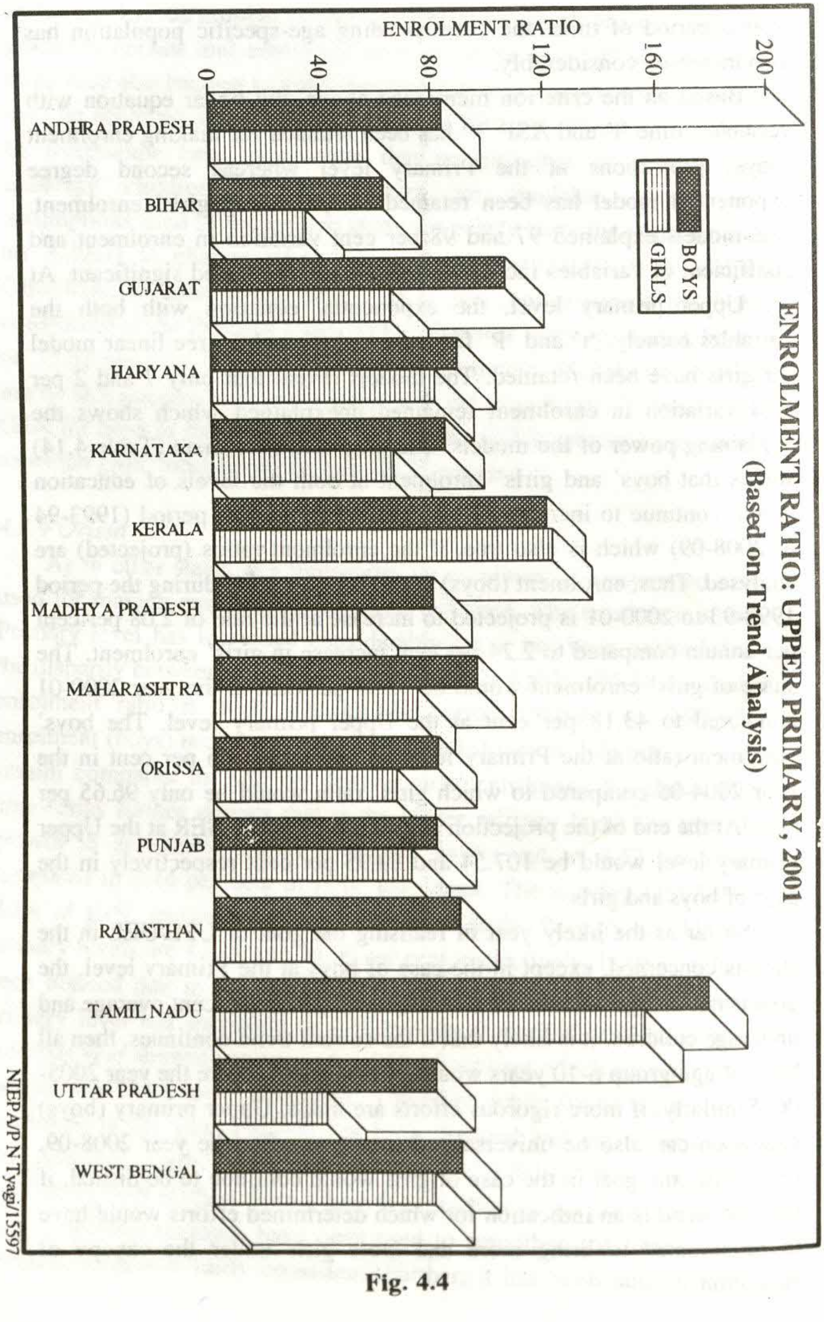
So far as the likely year of achievement of goal of UPE in Maharashtra is concerned, it apperars that for boys, UPE is in sight sometime near the year 2000-01, thereafter GER would decline assuming that the number of overage and underage children would also gradually decline and enrolment ratio would be near 100 per cent. The same may also happen to girls' enrolment at the Primary level and UPE may be achieved sometime after the year 2008-09. However, it would be worthwhile here to mention that no estimates of overage and underage children for Maharashtra are available. Hence, the assumptions used in the present study are purely tentative in nature and are subject to change when more reliable estimates are available. Otherwise, in most of the states, 23.71 per cent grossness has been considered at the Primary level. At the Upper primary level also, based on 15.78 per cent overage and underage estimate, Maharashtra would not be in a position to achieve the goal in the near future. However, the GER for boys in the year 2008-09 would be 108.50 per cent compared to which girls' ratio would be only 88.27 per cent.

4.2.9 Orissa

As in other states, the time-series on enrolment is constructed and used for making enrolment projections in Orissa. The enrolment at the Primary level has increased considerably but it has been noticed that the disparity between boys' (116.55 per cent) and girls' (86.10 per cent) enrolment ratio is wide. During the period 1966-67 to 1992-93, enrolment (boys) increased at the compounded rate of 2.28 per cent per annum compared to 3.40 per cent in girls' enrolment. Similarly, the time-series further reveals that at the Upper primary level, the rate of growth in enrolment (boys) computed works out to 4.52 per cent compared to 8.44 per cent in girls' enrolment. The existing (1992-93) share of girls' enrolment to total enrolment at the Primary and Upper primary levels are 41.14 and 36.00 per cent respectively. Further, it has been noticed that in the year 1992-93, boys' enrolment at the Upper primary level has increased to 0.80 million from 0.68 million in the previous year showing an increase of 17.65 per cent which according to the previous trend looks unrealistic. Therefore, while fitting the model, enrolment in the year 1992-93 has been dropped and regressions are run. Similarly, girls' enrolment in the year 1991-92 has suddenly declined to 0.39 million from a high 0.47 million in the previous year. Hence, moving averages have been used to smoothen the time-series which is otherwise fairly consistent. Further, it has been noticed that over a period of time, the corresponding age-specific population has also increased considerably.

Based on the criterion mentioned above, the linear equation with variables, time 't' and ASP 'P' has been retained for making enrolment (boys) projections at the Primary level whereas second degree exponential model has been retained for projecting girls' enrolment. The models explained 97 and 98 per cent variation in enrolment and coefficient of variables included in the model are found significant. At the Upper primary level, the exponential equation with both the variables namely, 't' and 'P' for boys and second degree linear model for girls have been retained. The models reveal that only 7 and 2 per cent variation in enrolment remained unexplained which shows the explaining power of the models. The projected enrolment (Table 4.14) shows that boys' and girls' enrolment at both the levels of education would continue to increase throughout the projection period (1993-94 to 2008-09) which is also true, if the enrolment ratios (projected) are analysed. Thus, enrolment (boys) at the Primary level during the period 1992-93 to 2000-01 is projected to increase at the rate of 2.08 per cent per annum compared to 2.24 per cent increase in girls' enrolment. The share of girls' enrolment would be 41.44 per cent in the year 2000-01 compared to 43.18 per cent at the Upper primary level. The boys' enrolment ratio at the Primary level would be 131.66 per cent in the year 2004-05 compared to which girls' ratio would be only 96.65 per cent. At the end of the projection period i.e. 2008-09, GER at the Upper primary level would be 107.54 and 89.95 per cent respectively in the case of boys and girls.

So far as the likely year of realising the goal of UPE/UEE in the state is concerned, except in the case of boys at the Primary level, the goal is not in sight. Based on the estimate of 23.71 per cent overage and underage children, it is likely that if the current trend continues, then all boys of age-group 6-10 years would be in schools before the year 2005-06. Similarly, if more rigorous efforts are made, Upper primary (boys) education can also be universalised sometime after the year 2008-09. Otherwise, the goal in the case of girls would continue to be dismal, if the past trend is an indication for which determined efforts would have to be initiated to bring more and more girls under the canopy of education.



ENROLMENT RATIO: UPPER PRIMARY, 2001
(Based on Trend Analysis)

NIEPA/P N Tyagi/15597

Fig. 4.4

4.2.10 Punjab

The time-series on enrolment and age-specific population (1966-67 to 1992-93) of Punjab suggests that over a period of time the enrolment ratio at the Primary level increased considerably from 79.10 (boys) and 59.80 (girls) per cent in the year 1966-67 to 92.49 and 88.13 per cent in year 1992-93. However, in absolute terms, the rate of growth in enrolment is not as impressive as in other states mainly due to its large base. In absolute terms, enrolment (boys) increased from 0.78 million in the year 1966-67 to 1.11 million in the year 1992-93 showing a compounded growth of 1.37 per cent compared to 2.39 per cent growth in girls' enrolment. Further, it has been observed that enrolment at the Upper primary level increased at the faster rate [2.88 per cent (boys) and 5.11 per cent (girls)] than at the Primary level. Likewise, the share of girls' enrolment to total enrolment respectively at the Primary and Upper primary levels of education also increased from the 39.91 and 30.65 per cent in the year 1966-67 to 46.34 and 43.61 per cent in the year 1992-93.

The linear model with variables 't' and 'P' and the second degree linear curve (with 't') has been retained for making boys' and girls' projections at the Primary level which explained about 63 and 54 per cent variation in enrolment and coefficient of variables included in the model are found significant. The coefficient of age-specific population '(P)' obtained is negative in the case of boys' enrolment at the Primary level which means that with increase in ASP, enrolment would decline but since the coefficient of time 't' is highly significant and positive, over- all enrolment may not fall. At the Upper primary level, the second degree exponential (with time) model has been retained for making projections for both boys and girls which explained more than 95 and 98 per cent variation in enrolment and coefficients of variables used in the model are found significant at 1 per cent level.

The projected enrolment (1993-94 to 2008-09) at the Primary level (Table 4.15) shows that boys' enrolment would increase to 1.37 million in the year 2000-01 from 1.11 million in the year 1992-93 showing an increase of 2.70 per cent per annum. Correspondingly, girls' enrolment would increase at the rate of 2.78 per cent during the same period. Comparatively, growth at the Upper primary level would be slower than the growth at the Primary level and enrolment would increase from 0.54 and 0.42 million in the year 1992-93 to 0.57 and 0.46 million in the year 2000-01 respectively in the case of boys and girls. The per cent share of girls to total enrolment at the Primary and Upper primary levels of education is likely to be 45.86 and 44.66 per cent in the year 2000-01.

When growth in terms of enrolment ratios (projected) is analysed, it has been noticed that the same would also improve in the future, but the increase would be faster at the Primary level than at the Upper primary level. Thus, if 23.71 per cent is considered an estimate of grossness, it is projected that by the year 2008-09, all girls of age-group 6-10 years in Punjab would be in schools. Boys would still take more time and the goal can be realised sometime after the year 2008-09. However, at the Upper primary level, the goal is not likely to be realised in the near future and hence needs more rigorous efforts to retain all those who graduated in the following years. GER for girls at the Upper primary level would be only 79.77 per cent in the year 2008-09 which shows that till all girls of age-group 11-13 years are brought under the education fold, the goal of UEE in the state is not likely to be realised. Hence, to alter the trend, girl-focussed programmes, similar to TLC programmes need to be developed.

4.2.11 Rajasthan

The 1991 Census indicates that about forty per cent population (total) is in the four educationally backward states. Rajasthan is also one of these states which has more than 13 per cent of the 40 per cent population along with Bihar, Madhya Pradesh and Uttar Pradesh. These states also have a majority of children of age-group 6-10 and 11-13 years. Keeping in view the low level of literacy in general and rural female literacy in particular in the state, it would be interesting to know future enrolment both at the Primary and Upper primary levels of education which, compared to other parts of the country, is also very low, especially in the case of girls. Therefore, a detailed enrolment projection exercise has been undertaken in Rajasthan for which a long time-series (1966-67 to 1992-93) has been constructed. The time-series reveals that compared to boys, girls' enrolment at both the levels of education has increased and growth in enrolment is also higher at the Primary level than at the Upper primary level which is a positive indication. However, the gross enrolment ratio for girls in the state is still far below their counterparts. The compound growth rates computed at the Primary level show that enrolment (boys) increased at the rate of 3.75 per cent per annum compared to 5.55 per cent in the case of girls. The respective rates at the Upper primary level are 5.08 and 7.47 per cent. Further, it has been observed that the rate of increase in enrolment in Rajasthan has been higher than in the age-specific population.

Before regressions are run, the time-series has been made consistent by just dropping the figures for the year 1992-93 which are increased abnormally from the previous year values. At the Primary level, for both boys and girls, the linear model with time 't' has been retained for making projections which explained 81.24 and 90.64 per cent variation in enrolment and coefficient of variable 't' has been found significant at 1 per cent. However, at the Upper primary level, the second degree linear for boys and exponential model with time 't' and ASP 'P' in the model for girls have been retained both of which explained a majority of variation in enrolment and the amount of unexplained variation is small. The coefficients are also found significant or have more than one t-value.

The projected enrolment at the Primary and Upper primary levels of education (1993-94 to 2008-09) has been presented in Table 4.16 which reveals that enrolment in both absolute and ratio form would continue to increase in the years to come. The per cent share of girls to total enrolment would be 31.27 and 26.75 per cent respectively at the Primary and Upper primary levels of education which shows that a large number of girls would continue to remain out of school even in the year 2000-01. The enrolment ratio would continue to grow from the existing 107.80 (boys) and 51.89 per cent (girls) in the year 1991-92 to 121.89 per cent and 59.78 per cent in the year 2000-01 and is further likely to improve to 122.38 (boys) and 60.38 per cent (girls) in the year 2004-05. Similarly, the enrolment ratio at the Upper primary level would also considerably improve but would not be enough to attain the status of UEE. Thus, in Rajasthan, the goal of UPE/UEE may not be realised in the near future, if 23.71 and 15.78 per cent is considered an estimate of overage and underage children at the Primary and Upper primary levels of education. However, if determined efforts are made, all boys of age-group 6-14 years can be brought under the umbrella of education sometime after the year 2008-09. Otherwise, if the present trend continues, the goal particularly in the case of girls, would continue to remain elusive for a very long period and girls' enrolment ratio would be only 60.94 and 63.18 per cent in the year 2008-09 respectively at the Primary and Upper primary levels of education.

4.2.12 Tamil Nadu

As in Karnataka, the time-series on age-specific population and enrolment constructed for the state of Tamil Nadu shows that the base year enrolment, especially at the Primary level, is itself very high. The enrolment ratio in the base year i.e. 1967-68 was 120.30 and 91.60 per cent respectively for boys and girls and the same has further increased to 146.60 and 132.69 per cent in the year 1992-93. In absolute terms, enrolment at the Primary level (total) increased at the rate of 1.95 per cent per annum during the period 1967-68 to 1992-93 compared to which the rate of growth at the Upper primary level was 4.28 per cent. It has also been noticed that in Tamil Nadu, the growth in age-specific population (age-groups 6-10 and 11-13 years) happens to be slower than that in enrolment at the Primary and Upper primary levels of education. Further, it has been observed that a vast majority of boys are in the system but a large number of girls of age-group 11-13 years are still out of school. If we analyse per cent share of girls to total enrolment at the Primary and Upper primary levels of education, it has been noticed that the same has increased from 42.37 and 34.09 per cent in the year 1966-67 to 46.22 and 43.42 per cent in the year 1992-93 which shows a marginal improvement in the girls' share at the Primary level.

For making enrolment projections, different curves mentioned earlier are used. When boys enrolment at the Primary level is regressed (exponential) on 't' and 'P', the model explained more than 98 per cent variation in enrolment but the variable 'P' is not found significant. Alternatively, variable 'P' has been dropped and regression (exponential and linear) are re-run which could explain a little less variation than in the earlier model alternative to which linear model (second degree) was tried. The model explained about 99 per cent variation in enrolment (boys) and coefficients of variables included in the model are found significant. Hence, linear equation (second degree) has been retained for making enrolment projections for boys. Following the same methodology, the linear model with variable 't' has been retained for projecting girls' enrolment which also explained about 99 per cent variation in enrolment. At the Upper primary level, the second degree exponential and linear models have been retained for making enrolment projections in the case of boys and girls respectively. The projected enrolment has been presented in Table 4.17 which suggests that enrolment at all the levels of school education would continue to grow at a very high rate in the years that follow which is quite possible because of the fact that in the base year itself, the enrolment ratio was as high as 120 and 92 per cent respectively for boys and girls at the Primary level. For instance, boys' enrolment would increase from the existing 4.27 million in the year 1992-93 to 5.03 million in the year 2000-01 showing an increase of 2.07 per cent per annum and the enrolment ratio would be 200.28 per cent compared to which girls' enrolment would increase at the rate of 2.24 per cent and enrolment ratio would be 183.91 per cent. Not only the enrolment at the Primary level in future would be rapid but the same is also true for Upper primary level where enrolment (boys) would increase from the existing 1.93 million in the year 1992-93 to 2.80 million in the year 2000-01 showing an increase of 4.74 per cent per annum compared to 5.72 per cent increase in girls' enrolment. The corresponding enrolment ratio would also be very high. Thus, keeping in view the high enrolment ratio in the year 1992-93, the rapid increase both in absolute and ratio terms in future cannot be ruled out but statistically the enrolment ratio of 200 per cent in the Indian context looks odd. However, in a number of states in the country, the enrolment ratio of scheduled caste children in the year 1993-94 has been found to be more than 200 per cent. Even in the states like Maharashtra, the enrolment ratio (boys) reported at the Primary level is 262 per cent compared to 290 per cent in Meghalaya. Thus, alternatively, a shorter time-series i.e. 1977-78 to 1992-93 has been used and the exercise is repeated at both the levels of education but quite similar results are obtained again. Hence, projected enrolment reported earlier is tentatively retained till detailed grade-wise enrolment projection exercises are carried out. However, the projected enrolment ratio suggests that Tamil Nadu might have already achieved the goal of UPE in the year 1993-94 and if the past trend continues, it is expected that all children of age-group 11-13 years would be enrolled by the end of the year 1997-98. Thus, Tamil Nadu would become the first Indian state to attain the status of universal enrolment. However, it is important to mention here that projections are based on assumptions of 23.71 and 15.78 per cent grossness at the Primary and Upper primary levels of education which according to the 1993-94 enrolment data is a gross under-estimation. The enrolment ratio at the Primary level is at present 149.0 per cent for boys and 140.8 per cent for girls.

4.2.13 Uttar Pradesh

The goal of education for all in the country cannot be realised unless Uttar Pradesh, one of the most populous states attains the status of UPE/UEE. In the past, considerable progress (in terms of absolute enrolment) has been made at all the levels of school education which is reflected in the time-series constructed for making enrolment projections. The enrolment at the Primary level (boys) increased at the rate of 1.74 per cent from 6.18 million in the year 1966-67 to 9.67 million in the year 1992-93 compared to which girls' enrolment during the same period increased at the compounded rate of 2.26 per cent per annum. At the Upper primary level, the rates of growth are 4.02 and 7.15 per cent respectively for boys and girls. As in a number of other states, enrolment at the Upper primary level, in terms of rate of growth, has been observed to be higher than at the Primary level and the rate of growth in the case of girls is also higher than their counterparts which is an encouraging feature and may lead towards universalising elementary education in the state. However, still the enrolment ratios are not high enough, especially in the case of girls, to attain the status of UPE/UEE which is mainly because of the fact that age-specific population has also simultaneously increased and as a result progress made in enrolment (in absolute terms) is not significantly reflected in the enrolment ratio. The share of girls' enrolment to that of total enrolment at the Primary and Upper primary levels of education has also increased from 35.50 and 16.79 per cent in the year 1966-67 to 38.59 and 30.40 per cent in the year 1992-93.

Before regressions are run, the time-series especially at the Upper primary level was smoothened (for a few years) by taking moving averages; otherwise the series is fairly consistent. The regression outputs reveal that the fit is not good both for boys' and girls' enrolment at the Primary level and the model could explain only 61 and

32 per cent variation in enrolment and also one of the variables was found insignificant. Alternatively, the time-series for the period 1977-78 to 1992-93 have been used to project enrolment at the Primary level. Based on the criterion mentioned above, the exponential model with variables 't' and 'P' and linear equation with variable 'P' has been retained for making enrolment projections both of which explained more than 92 and 83 per cent variation in the dependent variable. Likewise, regressions are also run at the Upper primary level and exponential (with variables 't' & 'P') and second degree linear (with variable 't') models have been retained for making boys and girls projections and the model explained about 86 and 97 per cent variation in enrolment. The projected enrolment at the Primary and Upper primary levels of education are presented in Table 4.18. A perusal of the results reveal that the increasing trend in enrolment - both in absolute and ratio form is likely to continue in the future. The results further reveal that though enrolment of girls would increase, its share to total enrolment would decline marginally. Based on the past trend, it is expected that boys' enrolment would reach to 134.83 and 96.93 per cent by the end of the year 2008-09 respectively at the Primary and Upper primary levels of education compared to 76.53 and 53.18 per cent for girls. So far as the likely year of achievement of the goal of UPE/UEE in Uttar Pradesh is concerned, based on the estimate of 23.71 per cent overage and underage children, the goal is not right in the sight except for boys at the Primary level which can be realised sometime between the years 2006-07 and 2007-08. Otherwise, education of girls would continue to be dismal, if the enrolment ratio is considered as an indication towards achieving the goal for which concerted efforts are needed to bring all girls of the age-group 6-14 years under the canopy of education. With the implementation of the World Bank Project (now under DPEP) in Uttar Pradesh, the efforts have already begun but the same would take at least eight to ten years to show its impact on the status of elementary education in general and education of girls in particular in the state.

4.2.14 West Bengal

The time-series constructed for the state of West Bengal shows a number of distortions and the same would definitely reflect in enrolment, if the projections are based on it. A number of sudden ups and downs at both the levels of education have been noticed. For instance, enrolment reported in the official publications are exactly the same for the years 1987-88, 1988-89 and 1989-90 and the same is also true for the years 1990-91 and 1991-92. Further, it has been observed that enrolment reported in the year 1992-93 is unusually large, when compared to enrolment in the previous year. As against the enrolment (boys) of 1.58 million in the year 1991-92, 2.48 million is reported next year which shows an increase of 0.90 million in absolute and 56.96 in percentage terms compared to which girls' enrolment increased by 82.20 per cent. Hence, the time-series during the period 1966-67 to 1987-88 has been used to examine the growth of enrolment and also as to undertake projection exercises. A perusal of the time-series (1966-67 to 1987-88) indicates that enrolment at the Primary level increased at the rate of 2.12 and 3.20 per cent per annum respectively for boys and girls against which the rate of growth at the Upper primary level is 3.31 and 4.58 per cent. It has also been observed that the share of girls' enrolment at the Primary and Upper primary levels of education has improved from 38.39 and 33.45 per cent in the year 1966-67 to 43.71 and 39.38 per cent in the year 1987-88. Further, it has been noticed that in West Bengal, enrolment at the Primary level (2.57 per cent) increased almost three times faster than that of the age-specific population (0.94 per cent) which indicates that a large number of overage and underage children are included in the enrolment.

For making enrolment projections, a linear equation with variables 't' and 'P' in the model for both boys and girls has been retained at the Primary level. The model explained more than 90 and 94 per cent variation in enrolment respectively. However, for both boys and girls, exponential equation with ASP 'P' in the model has been retained for making projections at the Upper primary level. The models explained about 84 and 86 per cent variation in the endogenous variable i.e. enrolment and coefficients of variables included in the model are found significant at 1 per cent level. The projected enrolment (Table 4.19) shows that at both the levels of education, it will continue to grow. The projected enrolment (boys) at the Primary level shows that it would increase to 5.42 million in the year 2000-01 compared to 4.38 million girls' enrolment. The corresponding GER would be 132.44 and 112.32

per cent in the year 2000-01. The share of girls' enrolment to total enrolment at the Primary and Upper primary levels in the year 2000-01 would be 44.67 and 46.06 per cent respectively. The results further reveal that enrolment at the Upper primary level would increase to 2.21 million in 2000-01 from 1.70 million in the year 1993-94 in the case of boys and to 1.89 million in 2000-01 from 1.29 million in the year 1993-94 in the case of girls. The enrolment ratio at the Upper primary level would be 89.58 and 80.13 per cent in the year 2000-01 respectively in the case of boys and girls. Thus, if 23.71 and 15.78 per cent are considered an estimate of overage and underage children at the Primary and Upper primary levels of education, West Bengal would be in a position to achieve the goal of UPE sometime between the years 1999-2000 and 2000-01 in the case of boys and between the years 2006-07 and 2007-08 in the case of girls. At the Upper primary level also, the goal of UEE is likely to be realised by the end of the year 2007-08 in the case of girls and by 2008-09 in the case of boys. Thus, West Bengal would be the second state of the country which would attain the status of universal enrolment in the age-group 6-14 years after Tamil Nadu attains the status in the year 1997-98. However, for the reasons mentioned above, projections are based on time-series data for the period 1966-67 to 1987-88. Thus, if the reliable data (1988-89 to 1992-93) is made available and projections are carried out again, the same would produce more reliable estimates of future enrolment, in the absence of which the present projections are purely tentative.

The results of the trend analysis are summarised in Tables 4.6 to 4.23 and Table 6.1 of Chapter 6.

Table 4.6
Andhra Pradesh
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	4423	3910	113.12	3424	3744	91.45
1993-94	4420	3996	110.61	3348	3820	87.64
1994-95	4497	4083	110.14	3418	3897	87.71
1995-96	4573	4173	109.59	3488	3976	87.73
1996-97	4679	4191	111.64	3575	3992	89.55
1997-98	4784	4209	113.66	3663	4010	91.35
1998-99	4889	4227	115.66	3750	4027	93.12
1999-2000	4994	4245	117.64	3837	4044	94.88
2000-01	5099	4263	119.61	3924	4062	96.60
2001-02	5216	4250	122.73	4021	4045	99.41
2002-03	5334	4237	125.89	4117	4028	102.21
2003-04	5451	4223	129.08	4214	4011	105.06
2004-05	5569	4210	132.28	4310	3994	107.91
2005-06	5686	4197	135.48	4407	3977	110.81
2006-07	5804	4184	138.72	4504	3960	113.74
2007-08	5921	4171	141.96	4600	3943	116.66
2008-09	6039	4158	145.24	4697	3926	119.64

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	1417	2077	68.22	870	2000	43.50
1993-94	1417	2156	65.72	952	2074	45.90
1994-95	1522	2241	67.92	1006	2152	46.75
1995-96	1638	2328	70.36	1062	2232	47.58
1996-97	1722	2364	72.84	1119	2265	49.40
1997-98	1811	2400	75.46	1178	2299	51.24
1998-99	1905	2437	78.17	1239	2332	53.13
1999-2000	2005	2475	81.01	1302	2367	55.01
2000-01	2110	2513	83.96	1367	2402	56.91
2001-02	2190	2521	86.87	1433	2408	59.51
2002-03	2273	2529	89.88	1501	2415	62.15
2003-04	2360	2538	92.99	1571	2421	64.89
2004-05	2449	2546	96.19	1643	2427	67.70
2005-06	2543	2554	99.57	1717	2433	70.57
2006-07	2639	2562	103.01	1792	2440	73.44
2007-08	2739	2571	106.53	1869	2446	76.41
2008-09	2843	2579	110.24	1948	2452	79.45

Table 4.7
Bihar
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	5878	5987	98.18	3017	5485	55.00
1993-94	6098	6114	99.74	3268	5599	58.37
1994-95	6190	6243	99.15	3366	5715	58.90
1995-96	6279	6375	98.49	3462	5834	59.34
1996-97	6365	6420	99.14	3556	5889	60.38
1997-98	6449	6466	99.74	3648	5944	61.37
1998-99	6531	6512	100.29	3736	5999	62.28
1999-2000	6610	6558	100.79	3822	6055	63.12
2000-01	6686	6605	101.23	3905	6111	63.90
2001-02	6760	6638	101.84	3983	6154	64.72
2002-03	6831	6671	102.40	4058	6197	65.48
2003-04	6899	6704	102.91	4129	6241	66.16
2004-05	6965	6737	103.38	4195	6285	66.75
2005-06	7029	6771	103.81	4256	6329	67.25
2006-07	7089	6804	104.19	4313	6373	67.68
2007-08	7148	6837	104.55	4364	6418	68.00
2008-09	7203	6871	104.83	4410	6463	68.23

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	1579	3038	51.97	657	2879	22.82
1993-94	1738	3222	53.94	711	3012	23.61
1994-95	1850	3417	54.14	781	3151	24.79
1995-96	1974	3624	54.47	859	3297	26.05
1996-97	1730	2653	65.21	919	3335	27.56
1997-98	2117	3683	57.48	983	3374	29.13
1998-99	2193	3712	59.08	1052	3413	30.82
1999-2000	2271	3742	60.69	1126	3453	32.61
2000-01	2352	3772	62.35	1205	3494	34.49
2001-02	2444	3823	63.93	1290	3534	36.50
2002-03	2532	3855	65.68	1381	3575	38.63
2003-04	2628	3896	67.45	1479	3616	40.90
2004-05	2728	3939	69.26	1583	3658	43.28
2005-06	2832	3982	71.12	1695	3700	45.81
2006-07	2940	4025	73.04	1816	3743	48.52
2007-08	3052	4069	75.01	1945	3787	51.36
2008-09	3169	4114	77.03	2084	3831	54.40

Table 4.8
Gujarat
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	3406	2576	132.22	2577	2416	106.66
1993-94	3388	2599	130.36	2600	2436	106.73
1994-95	3434	2621	131.02	2662	2457	108.34
1995-96	3480	2644	131.62	2725	2478	109.97
1996-97	3478	2643	131.59	2788	2475	112.65
1997-98	3476	2642	131.57	2850	2473	115.24
1998-99	3474	2641	131.54	2913	2471	117.89
1999-2000	3472	2640	131.52	2975	2468	120.54
2000-01	3470	2639	131.49	3038	2466	123.20
2001-02	3511	2659	132.04	3101	2487	124.69
2002-03	3553	2679	132.62	3163	2507	126.17
2003-04	3595	2700	133.15	3226	2528	127.61
2004-05	3638	2720	133.75	3289	2549	129.03
2005-06	3680	2741	134.26	3351	2571	130.34
2006-07	3724	2762	134.83	3414	2592	131.71
2007-08	3768	2784	135.34	3476	2614	132.98
2008-09	3811	2805	135.86	3539	2636	134.26

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	1224	1413	86.62	771	1331	57.93
1993-94	1270	1462	86.87	775	1375	56.36
1994-95	1322	1513	87.38	780	1420	54.93
1995-96	1376	1566	87.87	784	1467	53.44
1996-97	1431	1567	91.32	818	1469	55.68
1997-98	1488	1569	94.84	852	1471	57.92
1998-99	1546	1570	98.47	886	1473	60.15
1999-2000	1606	1571	102.23	920	1475	62.37
2000-01	1667	1573	105.98	954	1477	64.59
2001-02	1730	1574	109.91	989	1476	67.01
2002-03	1794	1575	113.76	1025	1476	69.44
2003-04	1860	1577	117.87	1060	1475	71.86
2004-05	1927	1578	122.04	1096	1475	74.31
2005-06	1996	1579	126.33	1131	1474	76.73
2006-07	2066	1580	130.59	1167	1474	79.17
2007-08	2138	1582	135.06	1202	1474	81.55
2008-09	2211	1583	139.67	1238	1473	84.05

Table 4.9
Haryana
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	979	1122	87.25	815	1003	81.26
1993-94	1036	1147	90.32	804	1025	78.44
1994-95	1052	1172	89.76	828	1048	79.01
1995-96	1069	1198	89.23	852	1071	79.55
1996-97	1085	1199	90.49	876	1073	81.64
1997-98	1101	1199	91.83	900	1074	83.80
1998-99	1118	1200	93.17	924	1076	85.87
1999-2000	1134	1201	94.42	948	1077	88.02
2000-01	1151	1202	95.76	972	1079	90.08
2001-02	1167	1197	97.49	996	1075	92.65
2002-03	1183	1192	100.67	1020	1070	95.33
2003-04	1200	1188	102.36	1044	1066	97.94
2004-05	1216	1183	104.23	1068	1062	100.56
2005-06	1233	1179	105.94	1092	1058	103.21
2006-07	1249	1174	107.84	1117	1053	106.08
2007-08	1266	1170	109.57	1141	1049	108.77
2008-09	1282	1165	110.04	1165	1045	111.48

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	464	601	77.20	298	537	55.49
1993-94	511	623	82.02	273	555	49.19
1994-95	530	645	82.17	310	573	54.10
1995-96	551	668	82.49	353	592	59.63
1996-97	569	680	83.68	381	604	63.08
1997-98	588	692	84.97	412	615	66.99
1998-99	607	704	86.22	445	626	71.09
1999-2000	627	717	87.45	483	638	75.71
2000-01	648	730	88.77	524	650	80.62
2001-02	663	727	91.20	518	649	79.82
2002-03	679	724	93.78	519	647	80.22
2003-04	695	721	96.39	506	645	78.45
2004-05	712	719	99.03	501	644	77.80
2005-06	729	716	101.82	495	642	77.10
2006-07	747	713	104.77	489	640	76.41
2007-08	765	711	107.59	483	638	75.71
2008-09	783	708	110.59	477	637	74.88

Table 4.10
Karnataka
Projected Enrolment (Classes I-V)

(In Thousands)

Year	Boys			Girls		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	3248	2606	124.64	2861	2456	116.49
1993-94	3297	2624	125.65	2855	2470	115.59
1994-95	3362	2641	127.30	2924	2484	117.71
1995-96	3427	2659	128.88	2993	2499	119.77
1996-97	3518	2641	133.21	3082	2483	124.12
1997-98	3609	2622	137.64	3171	2468	128.48
1998-99	3700	2604	142.09	3261	2452	132.99
1999-2000	3791	2586	146.60	3350	2438	137.41
2000-01	3882	2568	151.17	3439	2423	141.93
2001-02	3974	2549	155.90	3530	2405	146.78
2002-03	4065	2530	160.67	3621	2387	151.70
2003-04	4156	2512	165.45	3712	2370	156.62
2004-05	4248	2493	170.40	3803	2353	161.62
2005-06	4339	2475	175.31	3894	2335	166.77
2006-07	4430	2456	180.37	3984	2318	171.87
2007-08	4521	2438	185.44	4075	2301	177.10
2008-09	4612	2420	190.58	4165	2284	182.36

Projected Enrolment (Classes VI-VIII)

Year	Boys			Girls		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	1095	1517	72.18	789	1456	54.19
1993-94	1111	1525	72.85	783	1451	53.96
1994-95	1146	1533	74.76	817	1447	56.46
1995-96	1181	1541	76.64	851	1442	59.02
1996-97	1214	1552	78.22	878	1455	60.34
1997-98	1248	1564	79.80	904	1468	61.58
1998-99	1281	1576	81.28	931	1481	62.86
1999-2000	1313	1588	82.68	957	1495	64.01
2000-01	1347	1600	84.19	984	1508	65.25
2001-02	1396	1583	88.19	1023	1493	68.52
2002-03	1445	1566	92.27	1061	1477	71.83
2003-04	1493	1549	96.38	1100	1461	75.29
2004-05	1542	1533	100.59	1138	1446	78.70
2005-06	1591	1516	104.95	1177	1431	82.25
2006-07	1639	1500	109.27	1215	1416	85.81
2007-08	1688	1484	113.75	1253	1401	89.44
2008-09	1736	1468	118.26	1292	1386	93.22

Table 4.11
Kerala
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	1550	1504	103.06	1469	1466	100.20
1993-94	1592	1496	106.42	1516	1461	103.76
1994-95	1585	1488	106.52	1523	1485	102.56
1995-96	1578	1480	106.62	1504	1449	103.80
1996-97	1572	1477	106.43	1500	1446	103.73
1997-98	1566	1474	106.24	1495	1443	103.60
1998-99	1561	1471	106.12	1491	1440	103.54
1999-2000	1555	1468	105.93	1487	1438	103.41
2000-01	1549	1465	105.73	1482	1435	103.28
2001-02	1546	1473	104.96	1482	1442	102.77
2002-03	1542	1481	104.12	1482	1451	102.14
2003-04	1539	1490	103.29	1483	1459	101.64
2004-05	1535	1498	102.47	1483	1467	101.09
2005-06	1532	1506	101.73	1484	1475	100.61
2006-07	1529	1515	100.92	1484	1483	100.07
2007-08	1525	1523	100.13	1484	1491	99.53
2008-09	1522	1532	99.35	1485	1499	99.07

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	977	883	110.65	930	861	108.01
1993-94	992	897	110.59	954	875	109.03
1994-95	1018	912	111.62	981	889	110.35
1995-96	1044	926	112.74	1008	903	111.63
1996-97	1045	915	114.21	1015	894	113.53
1997-98	1045	904	115.60	1023	884	115.72
1998-99	1045	893	117.02	1031	875	117.83
1999-2000	1046	882	118.59	1039	865	120.12
2000-01	1047	871	120.21	1047	856	122.31
2001-02	1060	873	121.42	1064	858	124.01
2002-03	1073	875	122.63	1080	859	125.73
2003-04	1087	877	123.95	1097	860	127.56
2004-05	1100	878	125.28	1113	861	129.27
2005-06	1113	880	126.48	1130	863	130.94
2006-07	1127	882	127.78	1146	864	132.64
2007-08	1140	883	129.11	1162	865	134.34
2008-09	1153	885	130.28	1179	866	136.14

Table 4.12
Madhya Pradesh
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	4810*	4413	109.00	3336*	4078	81.80
1993-94	5046	4490	112.38	3203	4152	77.14
1994-95	5156	4568	112.87	3287	4227	77.76
1995-96	5266	4647	113.32	3371	4303	78.34
1996-97	5409	4654	116.22	3508	4314	81.32
1997-98	5553	4661	119.14	3645	4325	84.28
1998-99	5696	4668	122.02	3782	4337	87.20
1999-2000	5840	4675	124.92	3920	4348	90.16
2000-01	5983	4683	127.76	4057	4360	93.05
2001-02	6129	4685	130.82	4198	4367	96.13
2002-03	6274	4687	133.86	4339	4373	99.22
2003-04	6421	4690	136.91	4480	4380	102.28
2004-05	6566	4692	139.94	4621	4387	105.33
2005-06	6712	4695	142.96	4762	4394	108.38
2006-07	6858	4698	145.98	4903	4400	111.43
2007-08	7004	4697	149.12	5045	4407	114.48
2008-09	7150	4702	152.06	5185	4414	117.47

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	1666**	2328	71.56	754**	2080	36.25
1993-94	1723	2434	70.79	894	2259	39.58
1994-95	1878	2545	73.79	953	2354	40.48
1995-96	2041	2660	76.73	1014	2454	41.32
1996-97	2074	2684	77.27	1077	2477	43.48
1997-98	2107	2708	77.81	1142	2500	45.68
1998-99	2141	2731	78.40	1210	2524	47.94
1999-2000	2174	2756	78.88	1280	2548	50.24
2000-01	2199	2773	79.30	1352	2572	52.57
2001-02	2215	2784	79.56	1427	2579	55.33
2002-03	2221	2788	79.66	1503	2587	58.10
2003-04	2227	2793	79.74	1582	2594	60.99
2004-05	2233	2797	79.84	1663	2602	63.91
2005-06	2239	2801	79.94	1747	2610	66.93
2006-07	2247	2807	80.05	1832	2617	70.00
2007-08	2255	2813	80.16	1920	2625	73.14
2008-09	2264	2819	80.31	2010	2633	76.34

* relates to 1991-92

** relates to annual plan 1993-94

Table 4.13
Maharashtra
Projected Enrolment (Classes I-V)

(In Thousands)

Year	Boys			Girls		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	5815	4661	124.76	5096	4368	116.67
1993-94	5699	4733	120.41	5058	4435	114.05
1994-95	5799	4806	120.66	5158	4503	114.55
1995-96	5816	4880	119.18	5260	4573	115.02
1996-97	5871	4911	119.55	5305	4604	115.23
1997-98	5924	4943	119.85	5351	4635	115.45
1998-99	5974	4975	120.08	5397	4666	115.67
1999-2000	6021	5007	120.25	5443	4698	115.86
2000-01	6065	5039	120.36	5490	4729	116.09
2001-02	6107	5085	120.10	5552	4772	116.35
2002-03	6147	5132	119.78	5615	4814	116.64
2003-04	6184	5179	119.41	5678	4858	116.88
2004-05	6218	5227	118.96	5742	4901	117.16
2005-06	6250	5274	118.51	5806	4945	117.41
2006-07	6279	5323	117.96	5871	4989	117.68
2007-08	6305	5372	117.37	5937	5034	117.94
2008-09	6329	5421	116.75	6003	5079	118.19

Projected Enrolment (Classes VI-VIII)

Year	Boys			Girls		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	2337	2576	90.72	1699	2438	69.69
1993-94	2414	2655	90.92	1704	2497	68.24
1994-95	2452	2736	89.62	1738	2558	67.94
1995-96	2488	2820	88.23	1770	2621	67.53
1996-97	2553	2849	89.61	1825	2653	68.79
1997-98	2619	2878	91.00	1879	2685	69.98
1998-99	2684	2907	92.33	1934	2718	71.16
1999-2000	2749	2937	93.60	1988	2751	72.26
2000-01	2814	2967	94.84	2041	2785	73.29
2001-02	2886	2985	96.68	2108	2801	75.26
2002-03	2957	3004	98.44	2175	2817	77.21
2003-04	3028	3022	100.20	2241	2833	79.10
2004-05	3099	3041	101.91	2308	2849	81.01
2005-06	3170	3060	103.59	2374	2866	82.83
2006-07	3241	3079	105.26	2440	2882	84.66
2007-08	3312	3098	106.91	2507	2899	86.48
2008-09	3382	3117	108.50	2573	2915	88.27

Table 4.14
Orissa
Projected Enrolment (Classes I-V)

(In Thousands)

Year	Boys			Girls		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	2225	1909	116.55	1555	1806	86.10
1993-94	2324	1946	119.42	1614	1837	87.86
1994-95	2358	1984	118.85	1652	1869	88.39
1995-96	2392	2023	118.24	1689	1902	88.80
1996-97	2438	2041	119.45	1725	1919	89.89
1997-98	2485	2059	120.69	1760	1937	90.86
1998-99	2531	2077	121.86	1793	1954	91.76
1999-2000	2578	2096	123.00	1826	1972	92.60
2000-01	2624	2114	124.12	1857	1990	93.32
2001-02	2676	2123	126.05	1886	2163	87.19
2002-03	2728	2133	127.89	1914	2118	90.37
2003-04	2780	2142	129.79	1940	2075	93.49
2004-05	2832	2151	131.66	1964	2032	96.65
2005-06	2884	2161	133.46	1987	2036	97.59
2006-07	2936	2170	135.30	2008	2045	98.19
2007-08	2988	2180	137.06	2027	2054	98.69
2008-09	3040	2189	138.88	2043	2063	99.03

Projected Enrolment (Classes VI-VIII)

Year	Boys			Girls		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	800	1043	76.70	450	1015	44.33
1993-94	699	1070	65.33	523	1028	50.85
1994-95	737	1097	67.18	554	1041	53.24
1995-96	778	1125	69.16	587	1054	55.66
1996-97	816	1145	71.27	620	1073	57.79
1997-98	857	1165	73.56	655	1093	59.89
1998-99	900	1185	75.95	690	1113	61.99
1999-2000	945	1205	78.42	726	1134	64.06
2000-01	993	1226	81.00	764	1155	66.13
2001-02	1036	1235	83.89	802	1163	68.97
2002-03	1081	1244	86.90	842	1171	71.86
2003-04	1128	1253	90.02	882	1180	74.73
2004-05	1178	1262	93.34	923	1188	77.71
2005-06	1229	1271	96.70	965	1196	80.73
2006-07	1283	1281	100.16	1009	1205	83.72
2007-08	1338	1290	103.72	1053	1213	86.81
2008-09	1397	1299	107.54	1098	1221	89.95

Table 4.15
Punjab
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	1109	1199	92.57	958	1087	88.13
1993-94	1204	1198	100.58	994	1090	91.19
1994-95	1223	1197	102.26	1012	1092	92.67
1995-96	1242	1196	104.90	1033	1094	94.42
1996-97	1268	1184	108.19	1055	1085	97.24
1997-98	1294	1172	111.55	1079	1075	100.37
1998-99	1320	1160	114.98	1105	1066	103.66
1999-2000	1346	1148	118.38	1133	1057	107.19
2000-01	1372	1137	120.25	1162	1048	110.88
2001-02	1387	1141	121.03	1193	1053	113.30
2002-03	1403	1146	122.00	1226	1058	115.88
2003-04	1418	1150	122.77	1261	1063	118.63
2004-05	1433	1155	123.64	1297	1069	121.33
2005-06	1448	1159	124.40	1335	1074	124.30
2006-07	1463	1164	125.15	1375	1080	127.31
2007-08	1479	1169	125.98	1417	1085	130.60
2008-09	1494	1174	127.26	1461	1091	133.91

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	537	687	78.17	416	606	68.65
1993-94	520	703	73.97	404	627	64.43
1994-95	528	719	73.44	414	648	63.89
1995-96	536	735	72.93	423	671	63.04
1996-97	543	729	74.49	431	666	64.71
1997-98	551	724	76.10	439	661	66.41
1998-99	558	718	77.72	447	656	68.14
1999-2000	564	712	79.21	454	651	69.74
2000-01	570	707	80.62	460	646	71.21
2001-02	576	700	82.29	466	641	72.70
2002-03	582	693	83.98	471	636	74.06
2003-04	587	687	85.44	475	632	75.16
2004-05	592	680	87.06	478	627	76.24
2005-06	597	673	88.71	481	622	77.33
2006-07	601	667	90.10	483	617	78.28
2007-08	604	660	91.52	485	612	79.25
2008-09	608	654	92.97	485	608	79.77

Table 4.16
Rajasthan
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	3598	3051	117.93	1563	2814	55.54
1993-94	3669	3084	118.97	1613	2848	56.64
1994-95	3740	3117	119.99	1662	2882	57.67
1995-96	3813	3151	121.01	1712	2916	58.71
1996-97	3826	3158	121.15	1723	2924	58.93
1997-98	3840	3164	121.37	1734	2931	59.16
1998-99	3854	3171	121.54	1745	2939	59.37
1999-2000	3868	3177	121.75	1755	2946	59.57
2000-01	3881	3184	121.89	1766	2954	59.78
2001-02	3890	3188	122.02	1775	2960	59.97
2002-03	3899	3192	122.15	1781	2963	60.11
2003-04	3907	3196	122.25	1788	2968	60.24
2004-05	3916	3200	122.38	1795	2973	60.38
2005-06	3925	3204	122.50	1802	2978	60.51
2006-07	3934	3208	122.63	1809	2983	60.64
2007-08	3942	3212	122.73	1816	2988	60.78
2008-09	3951	3216	122.85	1824	2993	60.94

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	1307	1668	78.36	439	1530	28.69
1993-94	1231	1724	71.40	368	1584	23.23
1994-95	1289	1781	72.38	390	1640	23.78
1995-96	1348	1840	73.26	413	1699	24.31
1996-97	1409	1847	76.29	447	1706	26.20
1997-98	1471	1854	79.34	483	1714	28.18
1998-99	1535	1861	82.48	522	1721	30.33
1999-2000	1601	1868	85.71	564	1729	32.62
2000-01	1668	1874	89.01	609	1736	35.08
2001-02	1737	1881	92.34	658	1744	37.73
2002-03	1808	1886	95.86	712	1751	40.66
2003-04	1880	1896	99.16	769	1758	43.74
2004-05	1954	1903	102.68	831	1765	47.08
2005-06	2029	1910	106.23	899	1773	50.71
2006-07	2106	1917	109.86	971	1780	54.55
2007-08	2185	1925	113.51	1050	1788	58.72
2008-09	2265	1932	117.24	1134	1795	63.18

Table 4.17
Tamil Nadu
Projected Enrolment (Classes I-V)

(In Thousands)

Year	Boys			Girls		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	4268	2911	146.62	3668	2764	132.71
1993-94	4438	2857	155.34	3885	2712	143.25
1994-95	4519	2803	161.22	3957	2660	148.76
1995-96	4601	2751	167.25	4029	2610	154.37
1996-97	4685	2701	173.45	4101	2562	160.07
1997-98	4769	2652	179.83	4173	2516	165.86
1998-99	4855	2604	186.44	4245	2470	171.86
1999-2000	4941	2557	193.23	4317	2425	178.02
2000-01	5029	2511	200.28	4389	2381	184.33
2001-02	5118	2513	203.66	4461	2383	187.20
2002-03	5208	2516	207.00	4533	2384	190.14
2003-04	5299	2518	210.44	4605	2386	193.00
2004-05	5391	2521	213.84	4677	2388	195.85
2005-06	5484	2524	217.27	4749	2390	198.70
2006-07	5579	2536	219.99	4821	2392	201.55
2007-08	5674	2529	224.36	4893	2394	204.39
2008-09	5770	2532	227.88	4965	2396	207.22

Projected Enrolment (Classes VI-VIII)

Year	Boys			Girls		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	1929	1722	112.02	1480	1644	90.02
1993-94	2078	1756	118.34	1597	1682	94.95
1994-95	2171	1811	119.88	1689	1721	98.14
1995-96	2267	1857	122.08	1783	1761	101.25
1996-97	2366	1796	131.74	1882	1703	110.51
1997-98	2469	1737	142.14	1983	1648	120.33
1998-99	2574	1680	153.21	2088	1594	130.99
1999-2000	2682	1625	165.05	2197	1542	142.48
2000-01	2795	1572	177.80	2309	1492	154.76
2001-02	2909	1555	187.07	2424	1476	164.23
2002-03	3027	1539	196.69	2543	1460	174.18
2003-04	3148	1523	206.70	2665	1444	184.56
2004-05	3272	1506	217.26	2790	1428	195.38
2005-06	3400	1490	228.19	2919	1413	206.58
2006-07	3531	1475	239.39	3051	1397	218.40
2007-08	3664	1458	251.30	3186	1382	230.54
2008-09	3801	1443	263.41	3326	1367	243.31

Table 4.18
Uttar Pradesh
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	9668	9345	103.46	6076	8279	73.39
1993-94	9701	9457	102.58	5497	8396	65.47
1994-95	9965	9571	104.12	5693	8515	66.86
1995-96	10237	9686	105.69	5892	8636	68.23
1996-97	10488	9748	107.59	6016	8712	69.05
1997-98	10746	9809	109.55	6142	8788	69.89
1998-99	11010	9871	111.54	6268	8865	70.71
1999-2000	11280	9934	113.55	6396	8943	71.52
2000-01	11558	9997	115.61	6524	9021	72.32
2001-02	11828	10036	117.86	6611	9074	72.86
2002-03	12105	10076	120.14	6698	9127	73.39
2003-04	12388	10115	122.47	6786	9180	73.92
2004-05	12678	10155	124.84	6874	9234	74.44
2005-06	12974	10195	127.26	6963	9288	74.97
2006-07	13278	10235	129.73	7052	9342	75.49
2007-08	13589	10275	132.25	7142	9396	76.01
2008-09	13908	10315	134.83	7233	9451	76.53

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	3787	5231	72.40	1653	4605	35.90
1993-94	3699	5307	69.70	1502	4684	32.07
1994-95	3823	5384	71.01	1581	4765	33.18
1995-96	3952	5462	72.35	1663	4848	34.30
1996-97	4079	5521	73.88	1746	4908	35.57
1997-98	4210	5580	75.45	1833	4970	36.88
1998-99	4346	5640	77.06	1921	5032	38.18
1999-2000	4487	5701	78.71	2013	5095	39.51
2000-01	4632	5763	80.37	2107	5158	40.85
2001-02	4774	5802	82.28	2203	5205	42.32
2002-03	4920	5842	84.22	2302	5252	43.8
2003-04	5071	5881	86.23	2403	5299	45.35
2004-05	5226	5922	88.25	2507	5347	46.89
2005-06	5387	5963	90.34	2613	5395	48.43
2006-07	5552	6003	92.49	2722	5444	50.00
2007-08	5723	6044	94.69	2833	5493	51.57
2008-09	5899	6086	96.93	2947	5542	53.18

Table 4.19
West Bengal
Projected Enrolment (Classes I-V)

(In Thousands)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (6-10)*	*GER (%)*	*Enrolment*	*ASP (6-10)*	*GER (%)*
1992-93	5302	4054	130.78	4815	3898	123.52
1993-94	4899	4090	119.78	3726	3920	95.05
1994-95	4983	4125	120.80	3813	3943	96.70
1995-96	5066	4161	121.75	3900	3965	98.36
1996-97	5137	4148	123.84	3995	3951	101.11
1997-98	5209	4134	126.00	4091	3938	103.89
1998-99	5280	4120	128.16	4186	3924	106.68
1999-2000	5351	4107	130.29	4282	3911	109.49
2000-01	5422	4094	132.44	4377	3897	112.32
2001-02	5493	4079	134.67	4473	3880	115.28
2002-03	5564	4064	136.91	4569	3864	118.25
2003-04	5635	4049	139.17	4665	3847	121.26
2004-05	5705	4034	141.42	4761	3830	124.31
2005-06	5857	4049	144.65	4857	3814	127.35
2006-07	5847	4004	146.03	4953	3797	130.45
2007-08	5918	3989	148.36	5049	3781	133.54
2008-09	5988	3975	150.64	5145	3764	136.69

Projected Enrolment (Classes VI-VIII)

Year	*Boys*			*Girls*		
	Enrolment	*ASP (11-13)*	*GER (%)*	*Enrolment*	*ASP (11-13)*	*GER (%)*
1992-93	2481	2201	112.72	2122	2183	97.21
1993-94	1695	2293	73.92	1290	2243	57.51
1994-95	1760	2389	73.67	1362	2304	59.11
1995-96	1828	2488	73.47	1438	2367	60.75
1996-97	1899	2484	76.45	1518	2364	64.21
1997-98	1972	2480	79.52	1603	2362	67.87
1998-99	2049	2475	82.79	1692	2360	71.69
1999-2000	2128	2471	86.12	1787	2357	75.82
2000-01	2210	2467	89.58	1887	2355	80.13
2001-02	2296	2462	93.26	1992	2348	84.84
2002-03	2384	2457	97.03	2103	2342	89.80
2003-04	2476	2452	100.98	2221	2336	95.08
2004-05	2572	2447	105.11	2345	2329	100.69
2005-06	2672	2442	109.42	2476	2323	106.59
2006-07	2775	2438	113.82	2614	2317	112.82
2007-08	2882	2433	118.45	2760	2311	119.43
2008-09	2994	2429	123.26	2914	2304	126.48

Table 4.20

Statement Showing Values of Constant and Regression Coefficients when Models are Fitted to Enrolment Primary Level (Boys): 1966-67 to 1992-93

State	*Model Retained*	R^2	*Constant*		*Coefficients*	
				't'	't^2'	'P'
Andhra Pradesh	Linear	0.9508	2.88E+06	1.12E+05	-	-4.00E-01
Bihar	Linear	0.9603	2.17E+05	1.65E+05	-1.29E+03	-
Gujarat	Linear	0.9346	-1.94E+06	-	-	2.05E+00
Haryana	Linear	0.9645	5.76E+05	1.64E+04	-	-
Karnataka	Linear	0.9896	3.00E+06	7.79E+04	-	-7.18E-01
Kerala	Exponential	0.3516	1.42E+01	-3.31E-03	-	1.32E-07
Madhya Pradesh	Linear	0.9694	3.05E+06	1.47E+05	-	-4.73E-01
Maharashtra	Linear	0.9852	2.97E+06	1.34E+05	-1.29E+03	-
Orissa	Linear	0.9715	1.93E+06	5.79E+04	-	-6.28E-01
Punjab	Linear	0.6313	1.47E+06	1.83E+04	-	-6.46E-01
Rajasthan	Linear	0.8125	-2.89E+06	-	-	2.13E+00
Tamil Nadu	Linear	0.9879	2.67E+06	5.07E+04	5.53E+02	-
Uttar Pradesh	Linear	0.9269	1.53E+01	2.11E-02	-	5.00E-08
West Bengal*	Linear	0.9018	1.83E+06	7.44E+04	-	2.42E-01

* Based on 1966-67 to 1987-88 data.

Table 4.21

Statement Showing Values of Constant and Regression Coefficients when Models are Fitted to Enrolment Primary Level (Girls): 1966-67 to 1992-93

State	*Model*		*Constant*	*Coefficients*		
	Retained	R^2		't'	't^2'	'P'
Andhra Pradesh	Linear	0.9459	1.83E+06	9.19E+04	-	-2.78E-01
Bihar	Exponential	0.9688	7.33E-02	6.83E-02	-7.00E-04	-
Gujarat	Linear	0.9906	8.46E+05	6.66E+04	-	-
Haryana	Linear	0.9608	1.30E+05	2.41E+04	-	-
Karnataka	Linear	0.9742	2.34E+06	7.89E+04	-	-6.86E-01
Kerala	Exponential	0.2894	1.39E+01	-2.11E-03	-	2.87E-07
Madhya Pradesh	Linear	0.9539	2.56E+06	1.47E+05	-	-8.35E-01
Maharashtra	Linear	0.9760	-1.46E+06	-	-	4.47E+00
Orissa	Exponential	0.9821	1.32E+01	5.36E-02	-5.34E-04	-
Punjab	Linear	0.5555	9.47E+05	-1.24E+04	8.88E+02	-
Rajasthan	Linear	0.9064	-2.54E+06	-	-	4.46E+00
Tamil Nadu	Linear	0.9881	1.87E+06	7.20E+04	-	-
Uttar Pradesh	Linear	0.8335	-8.31E+06	-	-	1.64E+00
West Bengal*	Linear	0.9457	2.05E+06	9.22E+04	-	-2.31E-01

* Based on 1966-67 to 1987-88 data.

Table 4.22

Statement Showing Values of Constant and Regression Coefficients when Models are Fitted to Enrolment 1966-67 to 1992-93: Upper Primary Level (Boys)

State	*Model Retained*	R^2	*Constant*	*Coefficients* 't'	't²'	'P'
Andhra Pradesh	Exponential	0.9259	1.22E+01	3.35E-02	-	4.61E-07
Bihar	Exponential	0.9802	1.30E+01	3.01E-02	-	1.70E-07
Gujarat	Linear	0.9947	4.15E+05	9.55E+03	7.50E+02	-
Haryana	Exponential	0.9687	1.21E+01	2.53E-02	-	5.67E-07
Karnataka	Linear	0.9650	8.38E+05	3.96E+10	- 5.49E-01	
Kerala	Linear	0.9607	-2.43E+05	1.16E+04	-	1.04E+00
Madhya Pradesh	Linear	0.7478	-1.69E+06	-	-	1.40E+00
Maharashtra	Linear	0.9577	1.57E+06	8.11E+04	- 5.37E-01	
Orissa	Exponential	0.9336	1.18E+01	3.76E-02	-	5.64E-07
Punjab	Exponential	0.9555	1.25E+01	3.49E-02	- 3.45E-04	
Rajasthan	Linear	0.9777	2.81E+05	1.12E+04	8.14E+02	-
Tamil Nadu	Linear	0.9950	7.48E+05	7.09E+03	1.56E+03	-
Uttar Pradesh	Exponential	0.8572	1.43E+01	2.72E-02	-	7.60E-08
West Bengal*	Linear	0.8371	1.33E+01	3.79E-02	-	-

* Based on 1966-67 to 1987-88 data.

Table 4.23

Statement Showing Values of Constant and Regression Coefficients when Models are Fitted to Enrolment 1966-67 to 1992-93: Upper Primary Level (Girls)

State	*Model Retained*	R^2	*Constant*	*Coefficients*		
				'*t*'	't^2'	'*P*'
Andhra Pradesh	Linear	0.9907	1.67E+05	3.05E+03	8.92E+02	-
Bihar	Exponential	0.9793	1.11E+01	5.74E-02	-	2.61E-07
Gujarat	Linear	0.9869	6.96E+05	3.52E+04	-	-6.60E-01
Haryana	Exponential	0.8855	8.74E+00	-	-	6.81E-06
Karnataka	Linear	0.9368	4.88E+05	3.21E+04	-	-4.16E-01
Kerala	Linear	0.9756	-1.77E+05	1.54E+04	-	7.99E-01
Madhya Pradesh	Linear	0.9799	1.57E+05	-5.01E+03	1.12E+03	-
Maharashtra	Linear	0.9697	1.35E+06	7.85E+04	-	-7.39E-01
Orissa	Linear	0.9757	4.08E+04	3.43E+03	4.92E+02	-
Punjab	Exponential	0.9886	1.16E+01	6.80E-02	-7.86E-04	-
Rajasthan	Exponential	0.9863	1.12E+01	8.05E-02	-	-3.80E-07
Tamil Nadu	Linear	0.9980	4.12E+05	-2.00E+03	1.70E+03	-
Uttar Pradesh	Linear	0.9698	3.07E+05	7.81E+03	1.25E+03	-
West Bengal*	Exponential	0.8560	1.25E+01	5.43E-02	-	-

* Based on 1966-67 to 1987-88 data.

Chapter 5

Analytical Techniques

Student Cohort Method

5.1 Introduction

The enrolment projection exercises presented in Chapter 4 were based on the trend analysis on the assumption of past trend and would hold good for the future. Though it could be possible to use both enrolment and age-specific population for the last 25 years, still the method failed to capture the impact of future entry (intake) and transition rates. One of the other limitations in using mathematical models for projecting enrolment is its failure in producing grade-wise projections which is otherwise important for undertaking a variety of planning and efficiency related exercises. Therefore, in the present chapter, a detailed enrolment prediction (grade-wise) exercise has been undertaken by employing techniques based on the **Student Cohort Method** (Mehta 1997,1). The flow of students between the grades over a period of time gives an idea about the quantum of future enrolment either at Primary and/or at the Upper primary level of education. However, it is the enrolment at Grade I which forms the basis for future enrolment in subsequent grades or in other words, entry rate plays an important role on the future course of enrolment. As mentioned, two methods, namely, **grade-ratio** (when data on repeaters is not available) and **grade-transition** (when data on repeaters is availabe) are available for making grade-wise enrolment predictions both of which have been employed in the present study. The application of a particular method depends upon the availability of data on the number of repeaters which vary from state to state. If the data on repeaters is available, existing flow rates, such as, promotion, drop-out and repetition can be worked out which would help us in fixing the future targets. The future targets should be feasible and achievable and should also be related to the immediate past trend. It has been observed in the past that future targets of additional population need to enroll during the plan periods were fixed in isolation without even considering the flow rates. However, with the implementation of the DPEP (148 districts of 14 states), the focus has now shifted to disaggregated target setting with the main objective to reduce differences in enrolment, drop-out and learning achievement among genders and social groups to less than five per cent and reducing the over-all primary drop-out rates for all students to less than 10 per cent (MHRD, 1993). However, ODA and Government of India (GOI) Appraisal Mission to Madhya Pradesh and UNICEF, GOI and Government of Bihar Appraisal Mission to Bihar Education Project (BEP) observed that the process of disaggregated target setting has been initiated but the future targets on drop-out and retention rates are still being fixed in isolation even without knowing the current status of grade-to-grade drop-out and retention rates. Also, targets on enrolment ratio (gross) have been fixed without even knowing the existing entry rate which, in fact, helps us in identifying the disadvantaged areas and groups within the district. However, during the recent Government of India appraisal of BEP (1997) which has now come under the ambit of the DPEP, a significant improvement has been noticed in both fixing the targets as well as the use of population and enrolment projection techniques.

In both the methods of grade-wise enrolment projections namely, the Grade Ratio and Grade Transition methods, the first step is to know the cohort entry rate over a period of given data which in turn is used to know the rate in the future. Entry rate can be assumed in a variety of ways and can even be linked to the available policy options or it can be simply assumed that the past trend will continue in the future. Once the single-age population '6' and projected entry rate is available, enrolment in Grade I can easily be obtained by taking percentage of entry rate to school-age population '6'. In the case of the Grade-Transition method, new entrants instead of the entry rate is first calculated and then it is used to compute the net entry rate. While calculating the net entry rate, repeaters are taken out from the Grade I enrolment. Once the Grade I enrolment is projected, the next important task is to project enrolment in the remaining Grades (II, III, IV and V) in the subsequent years which is based on the grade-wise transition rates in future. Though both the methods require only two years grade-wise enrolment, it is always better to consider data over more than two years so as to capture the trend in entry, promotion, repetition and drop-out rates. The promotion rate during the projection period can also be linked to the policy options available to the planner. If no detention policy is in existence, the promotion rate may be assumed to be hundred as no student will be detained up to Grade V. In the case of the Grade-Transition method, targets on promotion rate instead of grade ratio need to be set out. This is repeated for the remaining grades over time in addition to which target on drop-out/repetition rate is also required to set out. Once the enrolment over time in different grades is projected, the same is used to obtain total enrolment in Grades I-V which is linked to the corresponding age-specific population (6-10 years) to obtain enrolment ratio. Retention rate at the Primary level can be obtained simply by taking the ratio of Grade V enrolment to Grade I enrolment four years back. The methods also help planners to set targets on enrolment ratio and retention rate. In case the projected enrolment ratio and retention rates do not match with the objectives/target dates, entry rate and grade-to-grade promotion and repetition rates over time need to be revised.

It is worthwhile to mention here that the Grade Ratio method is a simplified approach for making enrolment projections and is followed only when data on repeaters is not available (Mehta, 1997, 1). The method is not suitable for analysing implications of changes in educational policy, since the most important parameters depending upon educational policy like promotion, repetition and drop-out rates are not taken into account in this method. In the Grade-Transition method, the planner can easily know how a separate change in any of these factors will affect future enrolment and output. Different combinations of the values of flow rates will yield a number of possible developments, by taking out a set of assumptions, the effects on enrolment and output can be calculated easily and a particular set of enrolment can be retained for planning purposes. One of the limitations of the method is that some students enter Grade II or III directly either after studying at home or attending an unrecognised private school which the method does not take into consideration. Very low or zero drop-out rates found in some states may be due to this phenomenon.

Thus, it is evident from the above discussion that transition rates in general and drop-out rate in particular plays a crucial role in achieving the goal of UEE and future enrolment entirely depends upon these rates along with the entry rate which itself is a function of a number of exogenous variables. Therefore, before enrolment prediction exercises are undertaken, it is important first to analyse the present status of **entry and transition rates** both at the all-India and state level.

5.2 Entry Rate

Entry rate has been computed simply by taking enrolment in Grade I as percentage to population of age '6'. Grade I enrolment constitutes of both new entrants (freshers) and repeaters but while computing entry rate, repeaters have been excluded from enrolment as they are members of some previous cohort(s). However, since the age-grade matrix is not available (Chapter 3), entry rate may exceed hundred which is due to a large number of overage and underage children in Grade I and hence it is termed as 'Apparent Entry Rate'. The apparent entry rate has been computed for the years 1984-85 to 1990-91 at the all-India and for the years 1989-90 and 1990-91 at the state level and the same is presented in Tables 5.1 and 5.2 respectively.

Table 5.1
Apparent Entry Rate : All India
(1984-85 to 1989-90)

Year	*Apparent Entry Rate (%)*			*Gross Entry Rate (Total)**	*New Entrants***	
	Boys	*Girls*	*Total*		*Total*	*Girls*
1984-85	145.75	106.88	126.77	132.35	22.91	9.43
1985-86	154.19	113.00	134.10	140.58	24.83	10.20
1986-87	132.34	102.91	118.00	123.45	22.39	9.52
1987-88	133.82	104.10	119.35	124.89	23.20	9.86
1988-89	140.83	106.09	123.93	129.64	24.71	10.30
1989-90	123.71	96.59	110.53	115.45	22.59	9.59
1990-91	136.96	108.20	123.11	128.97	25.83	10.94

Note : The AER comes to more that 100 per cent due to overage and underage children.
* With repeaters
** Figures in Millions
Source: Computed by the author.

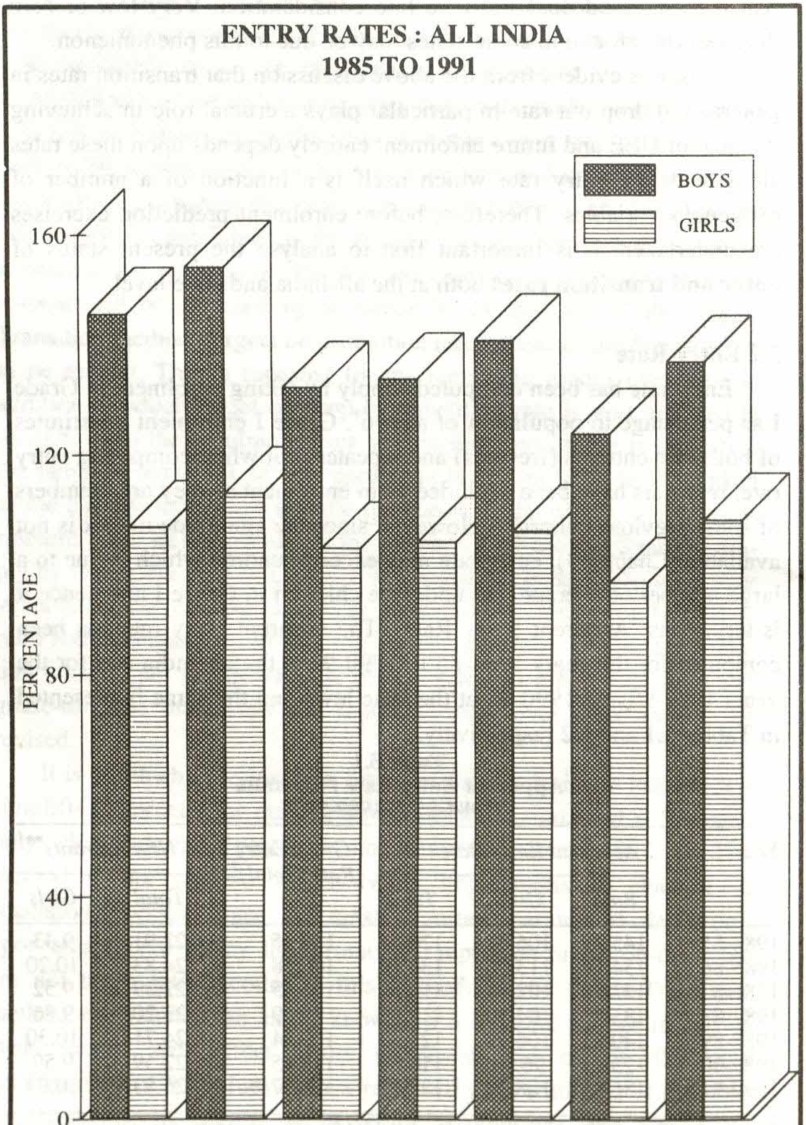


Fig. 5.1

NIEPA/P N Tyagi/14997

The entry rate (Table 5.1) indicates that it varies between 110.53 per cent in the year 1989-90 to 134.10 per cent in the year 1985-86. A sudden reversal in trend is noticed when the entry rate in the year 1985-86 declined from 134.10 per cent to 118.00 per cent in 1986-87, the year in which NPE (1986) was announced. Then again, it jumped to 123.93 per cent in the year 1988-89 but declined to 110.53 per cent the next year. In the latest year 1990-91, it was 123.11 per cent. Similar results are also obtained for girls. A perusal of apparent entry rates for boys reveal that it was as high as 154.19 per cent in the year 1985-86; but the same declined to 132.34 per cent the next year. The corresponding gross entry rate (total) also declined from 140.58 to 123.45 per cent in the year 1986-87. The sudden decline in entry rate in the year 1986-87 may be due to two factors. First, enrolment in Grade I itself might have declined or the corresponding school-age population (age '6') increased significantly. The other possible reason of this decline may be an absence of over-reporting in primary enrolment (official) in general and Grade I in particular as the results of the 'Fifth All-India Educational Survey' conducted during the same period may not necessarily tally with the official figures. The analysis of age-specific population during the period 1984-85 to 1987-88 indicates that no such change has taken place. On the other hand, enrolment in Grade I (boys), which increased from 14.08 million in the year 1984-85 to 15.32 million in the year 1985-86, declined to 13.47 million the next year. Similarly, total enrolment in Grade I declined from 26.03 million in the year 1985-86 to only 23.42 million in the year 1986-87 which shows a decline of 10.03 per cent (2.61 million). The corresponding enrolment at the Primary level also declined to 87.13 million in the year 1986-87 from 87.44 million in the year 1985-86. Further, it has been observed that during the period 1986-87 to 1990-91, enrolment (total) in Grade I increased at the compounded rate of 3.68 per cent per annum compared to 3.61 per cent increase in girls' enrolment. However, in absolute terms, it slightly increased from 23.42 million in the year 1986-87 to 23.59 million in the year 1989-90 showing a marginal growth of 0.73 per cent per annum which further increased to 27.06 million in the year 1990-91. Further, it has been noticed that both boys' and girls' enrolment (Grade I) suddenly declined in the year 1989-90 from their best levels in the year 1988-89 but again increased in the year 1990-91 which is the highest between the period 1985 to 1990. Thus, the time-series on entry rate at the all-India level (Table 5.l) do not suggest any specific trend and the pattern is too erratic to suggest its future course which is also true for new entrants. Table 5.1 further reveals that girls' share to total new entrants during the period 1984-85 to 1990-91 remained almost constant both in absolute and percentage terms.

Table 5.2 (A)
State-wise Entry Rate : 1989-90

(In Percentages)

State	*Boys*		*Girls*	
	Apparent	*Gross*	*Apparent*	*Gross*
Andhra Pradesh	168.91	168.91	131.07	131.07
Bihar	152.91	165.48	85.48	**92.49**
Gujarat+	117.65	167.61	86.55	142.29
Haryana	96.94	**101.38**	85.90	**89.75**
Karnataka	146.20	146.20	139.47	139.47
Kerala	96.44	**96.73**	95.44	**95.71**
Madhya Pradesh	121.70	124.11	99.51	100.35
Maharashtra	146.53	146.53	137.18	137.18
Orissa*	157.84	163.60	108.83	112.81
Punjab	94.48	**98.01**	89.36	**92.46**
Rajasthan**	149.55	156.68	142.92	148.28
Tamil Nadu	159.41	161.10	145.08	146.26
Uttar Pradesh	106.11	106.11	62.92	**62.92**
West Bengal	170.39	170.39	142.07	142.07
All India	**123.71**	**128.93**	**96.59**	**101.18**

Note: + Difference between apparent and gross entry rates is high because of large number of repeaters (39.17 per cent).

* For the year 1987-88

** For the year 1988-89. For adjusted data, the corresponding rates are 180.4 (boys) and 91.4 (girls) per cent.

Source : Computed by the author.

Table 5.2 (B)
State-wise Entry Rate : 1990-91

(In Percentages)

State	*Boys*		*Girls*	
	Apparent	*Gross*	*Apparent*	*Gross*
Andhra Pradesh	154.40	154.40	133.38	133.38
Bihar	142.83	155.01	86.61	**93.85**
Gujarat	112.46	169.65	94.32	147.65
Haryana	102.74	**102.74**	94.52	**94.52**
Karnataka	150.38	150.38	141.95	141.95
Kerala	99.61	**99.76**	98.38	**98.53**
Madhya Pradesh	123.29	123.29	102.74	**102.74**
Maharashtra	140.19	140.19	133.33	133.33
Orissa	168.59	175.39	120.66	125.26
Punjab	92.42	**95.69**	88.14	**91.01**
Rajasthan	162.44	167.65	86.51	**88.68**
Tamil Nadu	156.29	158.09	143.83	145.20
Uttar Pradesh	103.22	**103.22**	62.20	**62.20**
West Bengal	163.70	163.70	155.96	155.96
All India	**136.96**	**143.40**	**108.20**	**113.43**

Note : 1. Entry Rate $= \dfrac{\text{New Entrants}}{\text{Population (Age ‘6’)}} \times 100$

2. New Entrants = Enrolment (I) - Repeaters (I)

As much as 14.89 million boys and 10.94 million girls entered the education system in the year 1990-91 through Grade I. However, entry rates definitely indicate that a large number of overage and underage children are included in Grade I enrolment which was as high as 36.96 (boys) and 23.11 (total) per cent in the year 1990-91. But, entry rate in the case of girls was only 108.20 per cent in the year 1990-91 which shows that compared to boys, a large number of girls are still out of school. The Fifth All-India Educational Survey (1986) indicates that at the all-India level as much as 57.46 and 60.13 per cent boys and girls of Grade I were either below the age of ‘6’ or above the age of ‘11’. The ‘National Sample Survey for Monitoring of Universalisation of

Elementary Education' conducted by NIEPA (1995) further reveals that in 1991-92 only 37.41 per cent of the total children of age '6' were in Grade I which means a grossness of 62.59 per cent but still a majority of children of age '6' itself are out of school. Unless they join the education system, the goal would not be realised.

The state-wise entry rates (apparent) for the years 1989-90 and 1990-91 have been presented in Table 5.2. A perusal of the entry rates reveal that in a majority of states, it is very high for both boys and girls, but compared to boys, entry rates for girls are lower. Further, it has been noticed that entry rates are abnormally high in the states where gross enrolment ratio at the Primary level is also high. Such states are, Karnataka, Maharashtra, Tamil Nadu and West Bengal but differential in boys'/girls' entry rate is still significant in these states. In educationally backward states, such as, Bihar (86.61 per cent), Madhya Pradesh (102.74 per cent), Rajasthan (86.51 per cent) and Uttar Pradesh (62.20 per cent), entry rates especially those of girls are very low compared to boys and those in other states. In Kerala, it is only 99.61 per cent for boys which is the lowest in the country (except Punjab) which suggests that overage and underage children in Grade I is almost negligible; the entry rate for girls was 98.38 per cent. The corresponding enrolment ratio (gross) at the Primary level in Kerala is about 102 per cent which remained almost constant for more than 25 years. The high entry rates especially in educationally backward states, suggest that a large number of children who join the education system every year, if remain in the system, the realisation of goal of UPE may not be a difficult task. But the existing level of enrolment ratio at the Primary level suggests that a vast majority of children who take admission in Grade I do not even reach Grade II and drop out heavily from the system which significantly affects the efficiency of the education system. High incidence of drop-outs may be due to a number of reasons predominantly repetitive failures, lack of interest in education itself and further studies and lack of schooling facilities are the main reasons (NSSO 42nd Round, 1991 and Mehta, 1995). However, grade-to-grade transition rates, especially those of drop-out (or retention), would throw more light on the existing status of wastage at different levels of school education.

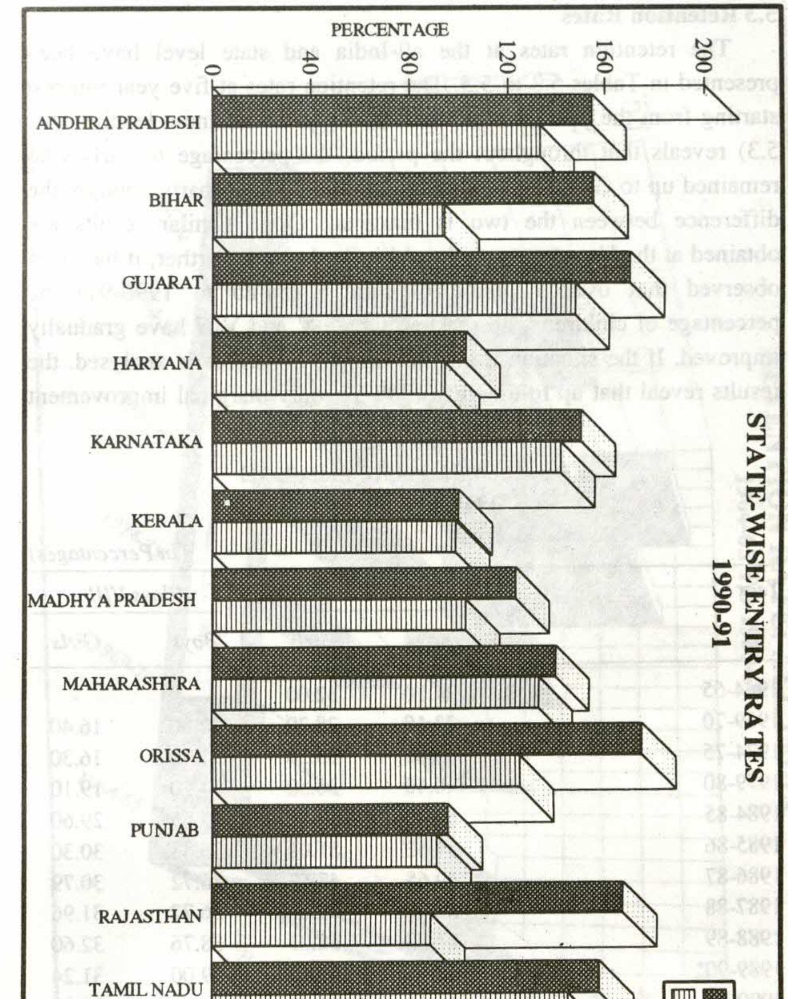

STATE-WISE ENTRY RATES
1990-91
PERCENTAGE
0
40
80
120
160
200
ANDHRA PRADESH
BIHAR
GUJARAT
HARYANA
KARNATAKA
KERALA
MADHYA PRADESH
MAHARASHTRA
ORISSA
PUNJAB
RAJASTHAN
TAMIL NADU
UTTAR PRADESH
WEST BENGAL
BOYS
GIRLS
NIEPA/P N Tyagi/15097

Fig. 5.2

5.3 Retention Rates

The retention rates at the all-India and state level have been presented in Tables 5.3 to 5.5. The retention rates at five year interval starting from the year 1964-65 to 1990-91 at the all-India level (Table 5.3) reveals that throughout the period, the percentage of girls who remained up to Grade V was lower than their counterparts, though, the difference between the two is marginal. Quite similar results are obtained at the Upper primary level i.e Grade VIII. Further, it has been observed that over a period of time (1964-65 to 1990-91) the percentage of children who reached Grade V and VIII have gradually improved. If the situation from year 1986-87 onwards is analysed, the results reveal that up to the year 1989-90, only marginal improvement

Table 5.3
Retention Rate at All India Level
1964-65 to 1990-91

(In Percentages)

Year	*Class V*		*Class VIII*	
	Boys	*Girls*	*Boys*	*Girls*
1964-65	37.10	32.00	-	-
1969-70	33.10	28.70	22.00	16.40
1974-75	36.80	33.30	21.30	16.30
1979-80	40.40	36.50	24.20	19.10
1984-85	50.38	47.54	35.65	29.60
1985-86	54.52	51.01	36.43	30.30
1986-87	49.65	47.67	36.72	30.79
1987-88	51.04	49.22	36.72	31.96
1988-89	54.83	52.03	38.76	32.60
1989-90$^+$	53.50	49.65	39.00	31.24
1990-91	64.45	56.41	41.89	34.87

Note : Retention rates have been computed by taking enrolment in Grade V as a percentage to enrolment in Grade I four years back without considering repeaters.

Source : Tyagi (1993)

:+ Computed by the author.

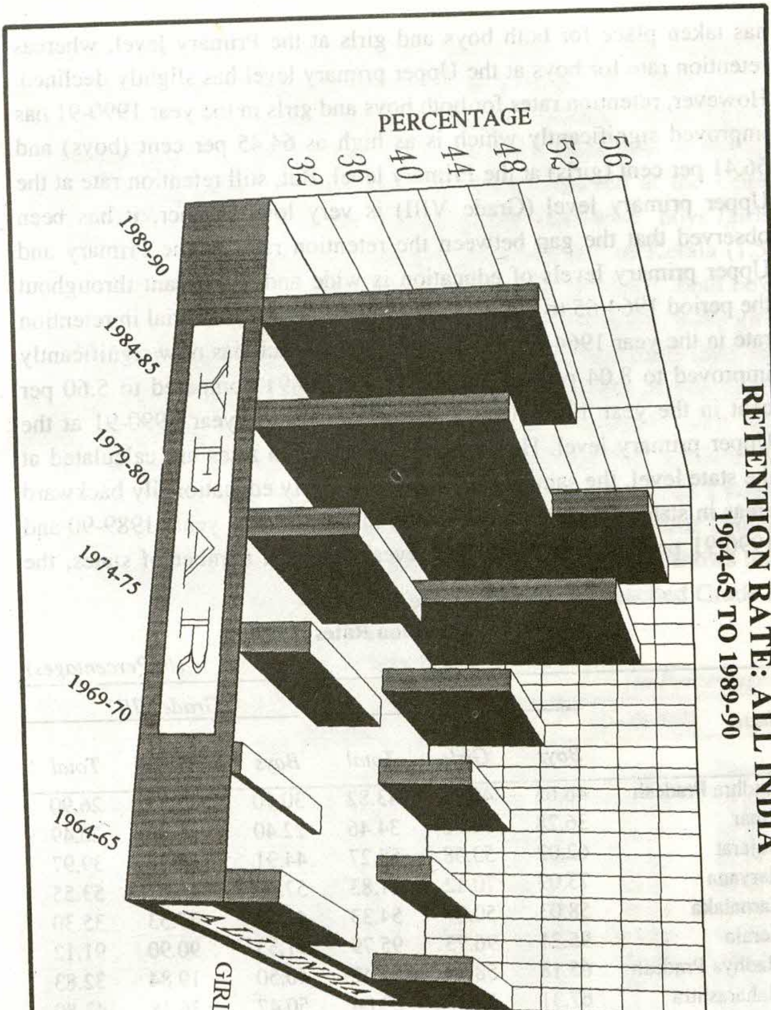

RETENTION RATE: ALL INDIA
1964-65 TO 1989-90
PERCENTAGE
32
36
40
44
48
52
56
YEAR
1964-65
1969-70
1974-75
1979-80
1984-85
1989-90
ALL INDIA
GIRLS
BOYS
NIEPA/P. N. Tyagi/16097

Fig. 5.3

has taken place for both boys and girls at the Primary level, whereas retention rate for boys at the Upper primary level has slightly declined. However, retention rates for both boys and girls in the year 1990-91 has improved significantly which is as high as 64.45 per cent (boys) and 56.41 per cent (girls) at the Primary level. But, still retention rate at the Upper primary level (Grade VIII) is very low. Further, it has been observed that the gap between the retention rates at the Primary and Upper primary levels of education is wide and significant throughout the period 1964-65 to 1990-91. The boys'/girls' differential in retention rate in the year 1964-65 was 5.10 per cent which has now significantly improved to 8.04 per cent in the year 1990-91 compared to 5.60 per cent in the year 1969-70 to 7.02 per cent in the year 1990-91 at the Upper primary level. However, if the retention rates are calculated at the state level, the same would help us identify educationally backward areas in states. The state-wise retention rates for the years 1989-90 and 1990-91 presented in Table 5.4 reveal that in a number of states, the

Table 5.4 (A)
State-wise Retention Rates :1989-90

(In Percentages)

State	*Grade V*			*Grade VIII*		
	Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*
Andhra Pradesh	46.65	40.15	43.82	30.70	21.72	26.90
Bihar	36.28	30.88	34.46	22.40	16.39	20.49
Gujarat	62.02	53.58	58.27	44.31	34.22	39.97
Haryana	73.09	70.12	71.83	57.20	48.02	53.55
Karnataka	58.03	50.07	54.33	42.57	27.53	35.30
Kerala	95.21	96.73	95.79	91.33	90.90	91.12
Madhya Pradesh	65.18	58.39	62.42	40.50	19.84	32.83
Maharashtra	67.31	58.17	63.04	50.47	36.18	43.89
Orissa	48.40	48.69	48.52	37.67	24.76	32.28
Punjab	68.83	68.18	68.53	55.85	48.34	52.42
Rajasthan	24.76	19.58	23.20	21.48	15.30	19.79
Tamil Nadu	81.22	76.36	78.96	59.13	49.35	54.58
Uttar Pradesh	70.43	57.35	65.75	47.16	34.97	43.25
West Bengal	36.69	31.24	34.26	24.28	21.21	22.96
All India	**53.50**	**49.65**	**51.92**	**39.00**	**31.25**	**35.91**

Source: Computed on the basis of information given in Annual Report : 1993-94, MHRD, Government of India, New Delhi, 1994.

retention rates both at the Primary and Upper primary levels of education are higher than at the all-India average. However, at the Primary level, some states, namely, Andhra Pradesh, Bihar, Orissa, Rajasthan and West Bengal had lower retention rates than at the all-India average. Quite a similar trend has been observed at the Upper primary level. Further while analysing the state-wise boys'/girls' differential in retention rate, it has been observed that in Kerala (1.52 per cent), Orissa (0.29 per cent) and Punjab (0.65 per cent), both boys and girls almost equally remained in the system. In Kerala, more girls remained in the system than their counterparts and retention rates are quite high both at the Primary and Upper primary levels of education. Thus, retention rates reveal that a large number of children who take admission in Grade I do not reach Grade V and Grade VIII. Little more than half and one third children who took admission in Grade I could reach Grade V and VIII respectively in the year 1989-90. Quite similar results are obtained for the year 1990-91. Further, Table 5.5 shows that out of 100 children enrolled in Grade I in 1986-87, 87 reached Grade II

Table 5.4 (B)
State-wise Retention Rates :1990-91

(In Percentages)

State	*Grade V*			*Grade VIII*		
	Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*
Andhra Pradesh	51.44	43.95	48.13	30.92	21.93	27.07
Bihar	36.75	33.12	35.52	23.15	16.10	20.85
Gujarat	61.29	51.16	56.73	47.11	35.85	42.17
Haryana	82.03	71.30	77.33	65.91	52.21	60.31
Karnataka	58.63	48.67	53.88	45.30	29.64	37.65
Kerala	99.50	99.12	99.31	96.83	95.84	96.35
Madhya Pradesh	70.53	61.50	66.84	45.61	29.06	39.22
Maharashtra	70.84	61.13	66.27	52.69	38.15	45.92
Orissa	53.45	54.38	53.83	53.93	32.21	39.54
Punjab	75.91	74.89	75.44	59.56	52.45	56.30
Rajasthan*	24.76	19.58	23.20	21.48	15.30	19.79
Tamil Nadu	81.73	77.32	79.68	59.83	50.57	55.52
Uttar Pradesh	69.33	57.58	65.18	45.03	34.39	41.68
West Bengal	56.79	43.32	50.84	44.79	39.77	42.64
All India	**64.45**	**56.41**	**61.04**	**41.89**	**34.87**	**39.08**

* 1989-90

Source: Computed by the author on the basis of information given in Education in India (different years), MHRD, Government of India, New Delhi.

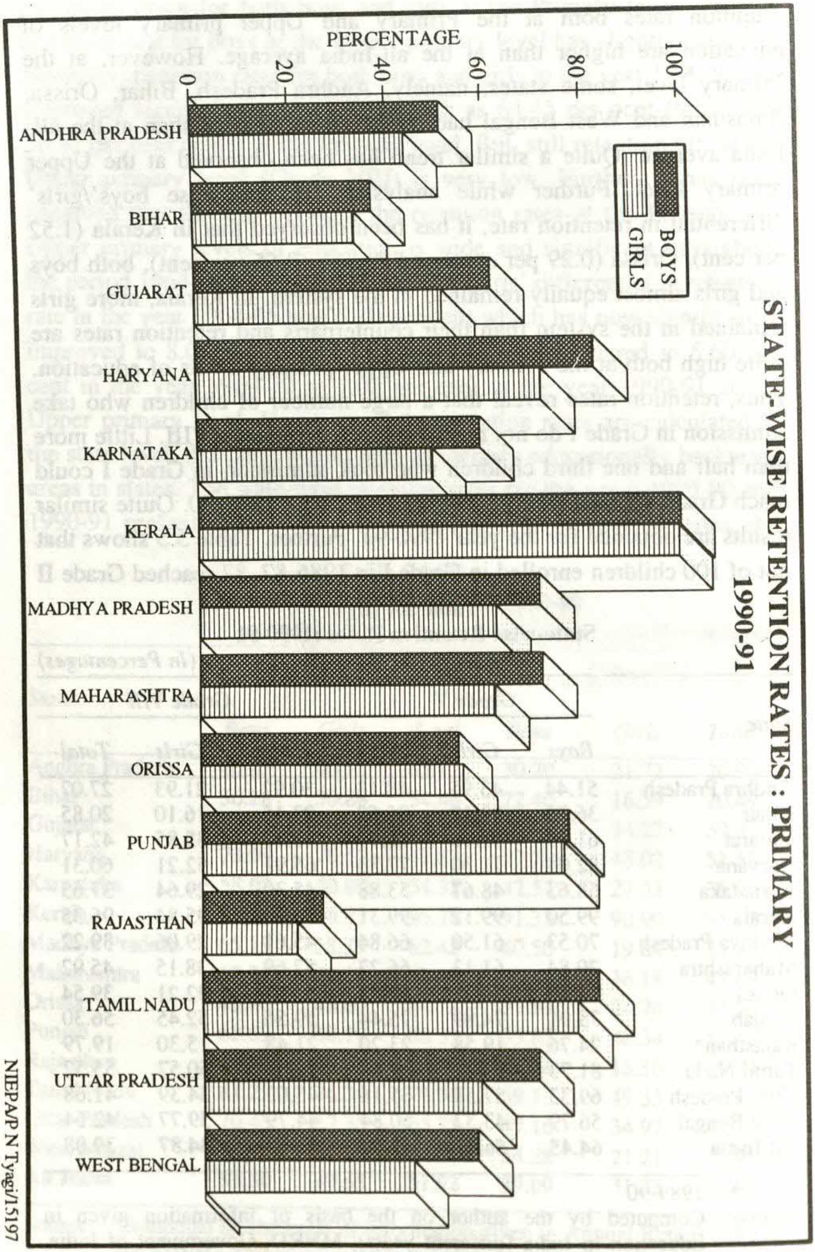

STATE-WISE RETENTION RATES : PRIMARY
1990-91
PERCENTAGE
0
20
40
60
80
100
BOYS
GIRLS
ANDHRA PRADESH
BIHAR
GUJARAT
HARYANA
KARNATAKA
KERALA
MADHYA PRADESH
MAHARASHTRA
ORISSA
PUNJAB
RAJASTHAN
TAMIL NADU
UTTAR PRADESH
WEST BENGAL
NIEPA/P N Tyagi/15197

Fig. 5.4

the next year compared to only 72, 63 and 59 to Grade III, Grade IV and Grade V respectively in subsequent years which means about 13 per cent children (3.04 million) dropped out before reaching Grade II and 28 (6.56 million), 37 (8.67 million) and 41 (9.60 million) per cent before reaching Grade III, IV and V respectively. A similar pattern, if obtained for girls shows that the extent of drop-out is more among girls than that of boys and only 84 out of 100 girls could reach Grade V compared to 90 boys. It has also been noticed that diagonal analysis of grade-wise enrolment along with number of repeaters could only present the amount of wastage or retention but it fails to give any idea about repetition and drop-out rates for all grades.

Table 5.5

Retention and Wastage Rates : All India Level

Cohort : 1986-87

(Figures in Percentages)

		Retention Rate				
	Enrolment Grade I (Million)	*I (1986-87)*	*II (1987-88)*	*III (1988-89)*	*IV (1989-90)*	*V (1990-91)*
Boys	13.47	100	90	73	65	62 (38)*
Girls	9.95	100	84	71	60	54 (46)
Total	23.42	100	87	72	63	59 (41)

Note * Wastage rate

Source : Computed by the author.

5.4 Transition Rates

The grade-wise repetition and drop-out rates at the all-India level for cohorts 1985 to 1990 and state level for cohorts 1989 and 1990 have been computed separately for boys and girls in the Primary and Upper primary classes (Tables 5.6 to 5.11).

5.4.1 Repetition Rates

The results (Table 5.6 to 5.8) reveal that the repetition rate (boys) in the year 1985-86 vary from 3.3 per cent in Grade II to 5.2 per cent in Grade VIII, the corresponding figures for girls are 3.0 and 5.3 per cent respectively. Quite similar results are obtained for cohorts 1986-87 and 1987-88. Further, it is observed that except for Grade I, an increasing trend in repetition rate has been noticed with each successive grade which shows that a decline in the percentage of freshers and promotees and the same is quite true as the majority of the children enter the education system through Grade I only. It has also been noticed that there is no significant change in repetition rate from cohorts 1985 to 1990 which is also true for girls. Similarly for cohort 1990, the

Table 5.6
Promotion, Repetition and Drop-out Rates
Primary Education : Boys
All India

(In Percentages)

Cohort	*Rate*	*Grades*				
		I	*II*	*III*	*IV*	*V*
1985	Promotion	72.9	77.6	84.8	85.3	-
	Repetition	5.0	3.6	4.3	4.9	4.3
	Drop-out	22.0	18.9	10.9	9.8	-
1986	Promotion	76.7	88.8	82.4	83.4	-
	Repetition	3.9	3.3	3.5	4.9	4.2
	Drop-out	19.4	8.0	14.2	11.7	-
1987	Promotion	89.9	80.8	85.8	88.3	-
	Repetition	4.7	3.0	3.9	5.1	5.4
	Drop-out	5.5	16.2	10.3	6.5	-
1988	Promotion	80.7	79.4	83.9	85.1	-
	Repetition	4.8	2.5	3.2	4.7	5.4
	Drop-out	15.4	18.1	12.9	10.2	-
1989	Promotion	83.4	86.9	85.9	87.1	-
	Repetition	3.6	3.1	3.0	4.8	5.1
	Drop-out	12.9	10.0	11.1	8.1	-
1990	Promotion	87.0	82.2	88.6	90.5	-
	Repetition	5.2	2.6	3.2	4.2	4.3
	Drop-out	7.8	15.1	8.3	5.3	-

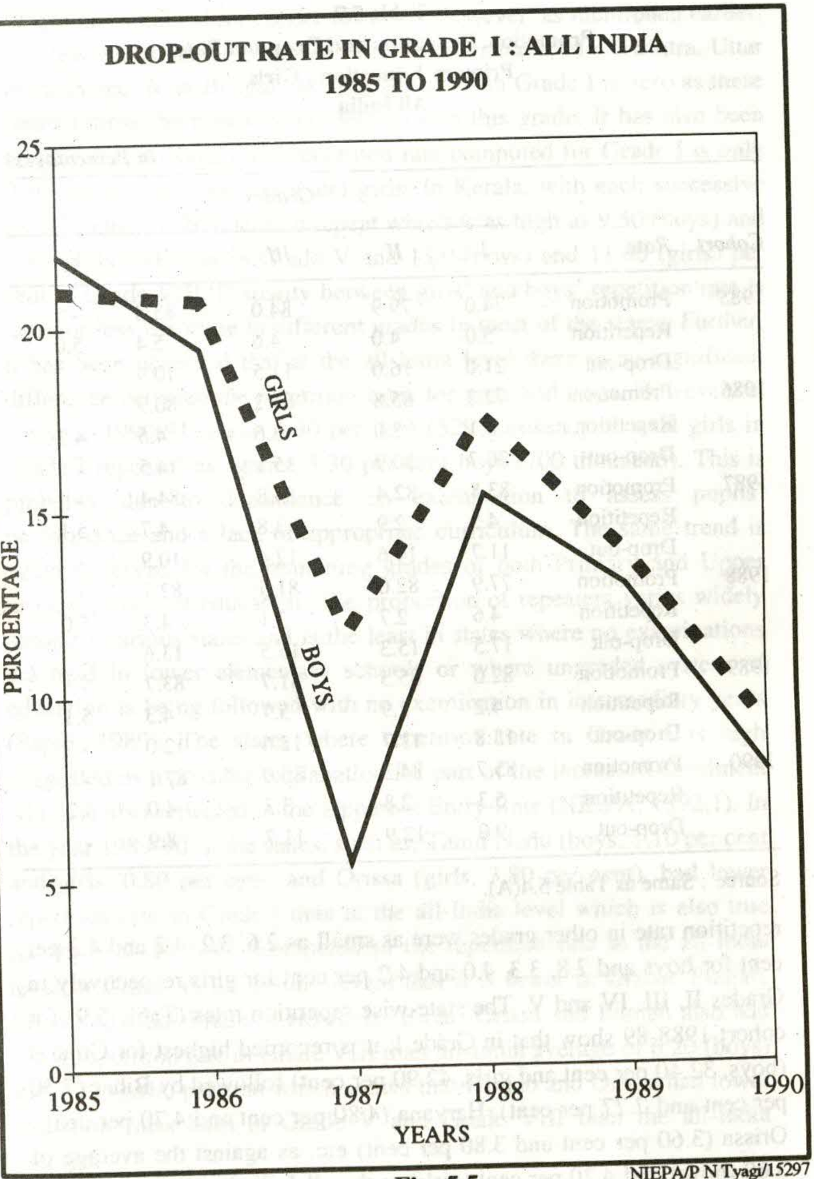

DROP-OUT RATE IN GRADE I : ALL INDIA
1985 TO 1990
25
20
15
10
5
0
PERCENTAGE
1985
1986
1987
1988
1989
1990
YEARS
GIRLS
BOYS
NIEPA/P N Tyagi/15297

Fig. 5.5

Table 5.7
Promotion, Repetition and Drop-out Rates
Primary Education : Girls
All India

(In Percentages)

		Grades				
Cohort	*Rate*	*I*	*II*	*III*	*IV*	*V*
1985	Promotion	74.0	79.9	84.0	83.8	-
	Repetition	5.0	4.0	4.6	5.4	5.0
	Drop-out	21.0	16.0	11.5	10.9	-
1986	Promotion	72.2	85.8	81.2	80.9	-
	Repetition	4.1	3.0	3.6	4.5	4.3
	Drop-out	20.7	10.9	15.1	14.5	-
1987	Promotion	83.8	82.4	83.8	84.4	-
	Repetition	4.5	2.9	3.8	4.7	5.1
	Drop-out	11.7	14.6	12.4	10.9	-
1988	Promotion	77.9	82.0	81.5	82.1	-
	Repetition	4.6	2.7	3.1	4.3	5.0
	Drop-out	17.5	15.3	15.5	13.6	-
1989	Promotion	82.0	85.3	81.7	83.7	-
	Repetition	4.2	2.9	5.7	4.3	5.1
	Drop-out	13.8	11.7	12.6	12.0	-
1990	Promotion	85.7	84.3	85.0	87.1	-
	Repetition	5.3	2.8	3.3	4.0	4.2
	Drop-out	9.0	12.9	11.7	8.9	-

Source : Same as Table 5.4(A).

repetition rate in other grades were as small as 2.6, 3.2, 4.2 and 4.3 per cent for boys and 2.8, 3.3, 4.0 and 4.2 per cent for girls respectively in Grades II, III, IV and V. The state-wise repetition rates (Table 5.9) for cohort 1988-89 show that in Grade I, it is recorded highest for Gujarat (boys, 32.40 per cent and girls, 42.90 per cent) followed by Bihar (7.50 per cent and 7.77 per cent), Haryana (4.80 per cent and 4.70 per cent), Orissa (3.60 per cent and 3.80 per cent) etc. as against the average of 3.60 (boys) and 4.20 per cent (girls) at the all-India level. Quite similar results are obtained for cohort 1989-90. However, as mentioned earlier, in a few states namely, Andhra Pradesh, Karnataka, Maharashtra, Uttar Pradesh and West Bengal, the repetition rate in Grade I is zero as these states follow the policy of no detention in this grade. It has also been noticed that in Kerala, the repetition rate computed for Grade I is only 0.30 per cent for both boys and girls. In Kerala, with each successive grade, more children tend to repeat which is as high as 9.50 (boys) and 8.40 (girls) per cent in Grade V and 13.0 (boys) and 11.80 (girls) per cent in Grade VIII. Disparity between girls' and boys' repetition rate is more or less the same in different grades in most of the states. Further, it has been observed that at the all-India level there is no significant difference between the repetition rates for girls and boys. However, in the year 1990-91, about 5.30 per cent (529 thousand) of total girls in Grade I repeated as against 5.30 per cent boys (700 thousand). This is probably due to dependence on examination to assess pupils' performance and a lack of appropriate curriculum. The same trend is again observed for the remaining grades of both Primary and Upper primary levels of education. The proportion of repeaters varies widely amongst various states and is the least in states where no examinations are held in lower elementary schools or where ungraded system of education is being followed with no examination in intermediary years (Sapra, 1980). The states where repetition rate in Grade I is high suggested as a possible explanation for part of the increased enrolment which is also reflected in the Apparent Entry Rate (NIEPA, 1992,1). In the year 1989-90, some states, such as, Tamil Nadu (boys, 1.10 per cent and girls, 0.80 per cent) and Orissa (girls, 3.80 per cent), had lower repetition rate in Grade I than at the all-India level which is also true for the year 1990-91. Compared to the repetition rate at the all-India level in Grade V, the results reveal that it is lower in Orissa, Punjab, Bihar and Uttar Pradesh. However, Bihar, Orissa and Punjab also had lower repetition rate in Grade VIII than all-India average of 6.20 (boys) and 7.30 (girls) per cent which shows that Punjab and Orissa had lower repetition rates both in Grade V and Grade VIII than the all-India average.

Table 5.8
Promotion, Repetition and Drop-out Rates
Upper Primary Education
All India

(In Percentages)

		Boys			*Girls*		
Cohort	*Rate*	*VI*	*VII*	*VIII*	*VI*	*VII*	*VIII*
1985	Promotion	83.9	88.5	-	85.2	85.2	-
	Repetition	6.0	5.2	5.1	5.7	5.3	5.1
	Drop-out	10.1	6.3	-	9.1	9.4	-
1986	Promotion	82.7	86.1	-	80.9	79.7	-
	Repetition	4.9	4.6	5.2	5.0	4.6	5.3
	Drop-out	12.3	9.3	-	14.1	15.7	-
1987	Promotion	85.6	88.8	-	86.6	85.1	-
	Repetition	6.3	5.7	7.5	6.3	5.7	7.4
	Drop-out	8.1	5.5	-	7.1	9.2	-
1988	Promotion	83.0	86.5	-	82.8	80.2	-
	Repetition	9.7	5.3	6.0	9.3	9.2	6.1
	Drop-out	7.3	8.2	-	7.9	14.6	-
1989	Promotion	82.8	87.8	-	81.7	81.9	-
	Repetition	9.7	5.4	6.2	9.5	5.9	7.3
	Drop-out	7.5	6.8	-	8.9	12.2	-
1990	Promotion	88.0	93.9	-	90.9	92.4	-
	Repetition	5.3	5.6	5.8	5.4	5.7	6.4
	Drop-out	6.7	0.5	-	3.7	1.9	-

Source : Same as Table 5.4.

The high rate of repetition has a direct bearing on the efficiency of the education system. One of the important indicators that reflect on wastage and efficiency of the education system is **Input/Graduate**, which denotes the average number of years taken by the system to produce a graduate. Ideally a student should take five years to complete Primary level and three years to Upper primary level but the situation, in actual terms, is not so (Mehta, 1994,2). The indicator at the all-India level reveals that both for boys and girls, there is a declining trend in the number of years taken by the system to produce a primary graduate which is considered to be a healthy sign, but it is still very much on the high side. Further, it has been noticed that at the Primary level, in 1985-86, as against an ideal of five years of schooling, it took 7.25 years to produce a graduate compared to 7.20 years in 1986-87 and 6.71 years in 1987-88. It shows that the system at the Primary level took about 45, 44 and 34 per cent respectively more time than ideally to produce a graduate. Further, the system took 50, 49 and 40 per cent more time for the respective years to produce a girl graduate. It shows that for completing Primary level, girls are taking more time than boys, but the difference between the two is insignificant and remained almost constant during the period 1985-86 to 1989-90. For cohort 1989-90, the system took 6.3 (boys) and 6.7 (girls) years to produce a graduate which otherwise means an input/output ratio of 1.27 and 1.33 respectively. The same is also true at the Upper primary level where it has been observed that compared to the Primary level, in 1989-90, the wastage on account of input/graduate is low since both boys and girls took only 9 per cent more time than ideally required.

5.4.2 Drop-out Rates

The drop-out rates at the all-India and state level have been presented in Tables 5.6 to 5.11. A perusal of drop-out rates at the all-India level reveals that over a period of time, it has gradually declined across the grades which is true for both boys and girls. Further, it has been observed that in the year 1986-87, a sudden decline in the drop-out rate is noticed which again increased significantly the next year. The analysis further indicates that of 24.98 million students who had taken admission in Grade I in the year 1982-83 in the country, only 12.40 and 8.97 million could reach Grade V and VIII in the year 1986-87 and 1989-90, which means more than 12.58 million (50.36 per cent) and 16.01 million (64.09 per cent) children dropped out from the system. For cohort 1989-90, the drop-out rate computed reveals that both at the Primary and Upper primary levels of education, it is higher for girls than for boys (except in Grade II), but, the difference between the two is only marginal. Thus, at the all-India level, about 8 per cent boys dropped out from the system before they reach Grade II as compared to about 15 per cent from Grade II to III and 8 per cent from Grade III to IV. The corresponding figures for girls are 9, 13 and 12 per cent respectively.

Table 5.9 (A)
Grade-wise Repetition Rates at Primary Level in Different States
Cohort : 1988-89

(In Percentages)

State	I		II		III		IV		V	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
Andhra Pradesh*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bihar	7.50	7.77	5.10	5.20	3.50	4.30	2.90	3.50	3.20	3.90
Gujarat	32.40	42.90	17.50	19.10	20.70	19.00	17.30	15.30	17.20	15.90
Haryana	4.80	4.70	5.80	5.20	9.80	8.90	10.90	10.80	9.70	10.10
Karnataka	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kerala	0.30	0.30	7.70	6.90	7.90	7.00	8.10	7.10	9.50	8.40
Madhya Pradesh*	1.30	0.90	1.30	1.00	1.00	0.70	7.00	5.10	9.60	10.40
Maharashtra	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orissa*	3.60	3.80	3.30	3.50	4.50	4.40	3.90	3.90	3.60	3.70
Punjab	3.20	3.10	5.00	4.50	5.20	4.60	4.44	3.80	1.50	1.30
Rajasthan	**	**	2.16	2.06	3.56	3.02	2.16	2.08	5.17	3.62
Tamil Nadu	1.10	0.80	1.00	0.90	1.10	0.90	8.90	7.80	7.70	7.70
Uttar Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	5.40	5.00	1.90	2.22
West Bengal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
All India	**3.60**	**4.20**	**3.10**	**2.90**	**3.00**	**5.70**	**4.80**	**4.30**	**5.10**	**5.10**

* : 1987-88
** : Data not available
Source : Computed by the author.

Table 5.9 (B)
Grade-wise Repetition Rates at Primary Level in Different States
Cohort : 1989-90

(In Percentages)

State	*I*		*II*		*III*		*IV*		*V*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
Andhra Pradesh*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bihar	7.80	7.80	4.60	5.10	3.60	4.10	2.80	3.60	3.10	3.80
Gujarat	34.90	37.30	19.20	20.70	21.80	21.60	18.40	16.60	17.70	15.60
Haryana	0.00	0.00	0.00	0.00	9.80	9.30	9.10	8.40	7.60	7.20
Karnataka	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kerala	0.20	0.10	7.90	6.90	6.90	8.80	8.30	7.10	8.70	7.30
Madhya Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maharashtra	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orissa**	4.10	3.80	4.00	3.60	6.00	5.50	5.10	4.30	4.70	4.70
Punjab	3.40	3.10	4.40	3.80	4.60	4.40	4.40	4.20	1.70	1.40
Rajasthan**	3.20	2.40	3.00	2.40	1.70	1.50	2.80	2.10	2.20	1.70
Tamil Nadu	1.10	1.00	1.00	1.00	1.10	1.00	7.40	7.00	7.10	6.90
Uttar Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	5.20	4.90	1.80	2.20
West Bengal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.70	6.00
All India	**5.20**	**5.30**	**2.60**	**2.80**	**3.20**	**3.30**	**4.20**	**4.00**	**4.30**	**4.20**

* : Data for year 1989-90 not available for Grade I
** : Based on adjusted data
Source : Computed by the author.

Table 5.10 (A)

Grade-wise Drop-out Rates at Primary Level in Different States

Cohort : 1988-89

(In Percentages)

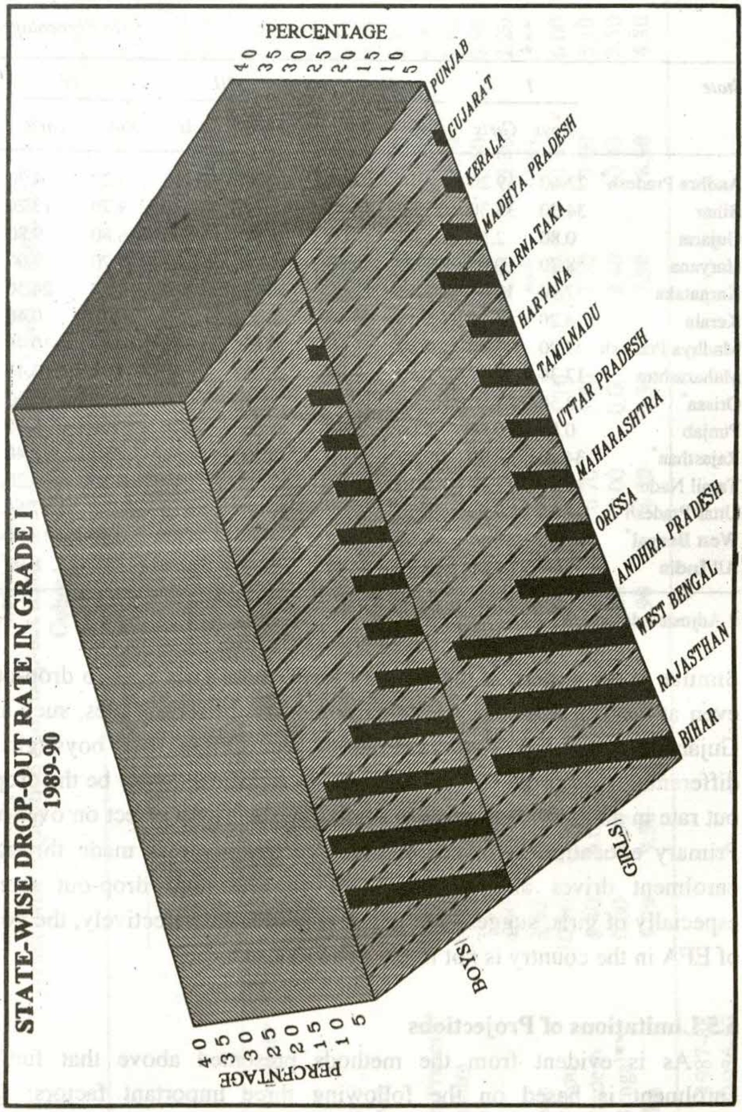
State	*I*		*II*		*III*		*IV*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
Andhra Pradesh*	26.20	24.60	21.90	24.70	15.00	22.20	7.70	10.60
Bihar	36.00	36.90	16.90	17.20	14.30	13.60	9.70	15.90
Gujarat	0.50	0.50	6.20	5.00	6.20	12.00	5.30	14.30
Haryana	5.00	6.10	2.30	4.20	9.00	13.30	6.50	8.20
Karnataka	6.40	12.60	14.10	7.90	15.20	15.70	18.00	22.70
Kerala	3.90	3.80	2.20	1.90	1.60	1.10	1.60	1.60
Madhya Pradesh*	0.50	0.50	7.40	0.50	13.20	26.90	20.50	18.00
Maharashtra	13.50	14.30	1.00	3.80	13.70	16.50	2.80	8.90
Orissa*	15.10	14.60	9.70	6.00	15.60	17.50	11.70	8.50
Punjab	8.70	8.80	5.40	5.20	9.70	10.20	11.50	11.50
Rajasthan	**	**	**	**	**	**	**	**
Tamil Nadu	12.40	12.30	6.50	7.30	10.00	8.50	0.50	3.40
Uttar Pradesh	8.10	8.20	0.50	1.30	13.60	18.80	7.00	14.60
West Bengal***	41.10	42.60	13.90	10.30	11.30	10.80	0.50	10.20
All India	**12.90**	**13.80**	**10.00**	**11.70**	**11.11**	**12.60**	**8.10**	**12.00**

* - 1987-88

** - Data not available/reliable

*** - 1986-97

The analysis of state-wise drop-out rates (Tables 5.10 and 5.11) reveals that for cohort 1989-90, Andhra Pradesh (22.60 per cent), Bihar (34.00 per cent), Maharashtra (12.30 per cent), Tamil Nadu (11.50 per cent) and West Bengal (29.70 per cent) had higher drop-out rates (boys) in Grade I than the all-India average (7.80 per cent). Quite similar trend is observed for girls in Grade I. Further, in Grade IV, Karnataka (18.50 per cent) had the highest drop-out rate (girls) followed by Madhya Pradesh (17.80 per cent), Uttar Pradesh (10.20 per cent), Bihar (9.70 per cent), Gujarat (6.80 per cent) etc. The lowest drop-out rate in Grade IV (boys) is observed in Kerala (0.20 per cent) which also had the lowest girls drop-out rate (0.40 per cent) followed by Tamil Nadu (0.50 per cent), Haryana (0.70 per cent), Orissa (8.40 per cent), Maharashtra (1.30 per cent) etc. Karnataka (24.50 per cent), Uttar Pradesh (17.50 per cent), Bihar (13.20 per cent) and Madhya Pradesh (10.40 per cent) also had high girls drop-out rates in Grade IV.



STATE-WISE DROP-OUT RATE IN GRADE I
1989-90

NIEPA/P. N. Tyagi/16197

Fig. 5.6

Table 5.10 (B)

Grade-wise Drop-out Rates at Primary Level in Different States

Cohort : 1989-90

(In Percentages)

State	*I*		*II*		*III*		*IV*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
Andhra Pradesh*	22.60	19.20	18.10	19.40	11.00	16.70	3.20	4.30
Bihar	34.00	35.30	15.00	16.40	12.70	12.40	9.70	13.20
Gujarat	0.80	2.50	5.00	7.00	3.80	8.90	6.80	9.80
Haryana	8.70	10.00	9.90	9.80	7.80	9.50	0.70	9.00
Karnataka	7.90	12.40	7.40	11.00	10.60	17.30	18.50	24.50
Kerala	4.20	4.20	0.40	3.90	2.20	0.50	0.20	0.40
Madhya Pradesh	7.70	7.90	5.60	3.00	0.50	10.50	17.80	10.40
Maharashtra	12.30	12.20	0.40	2.50	13.40	15.70	1.30	7.40
Orissa*	13.50	9.50	12.70	11.60	12.10	14.40	8.40	7.60
Punjab	0.50	0.50	5.00	5.80	11.00	10.80	9.10	7.80
Rajasthan*	34.00	32.90	29.80	37.70	3.30	11.50	8.80	10.40
Tamil Nadu	11.50	11.70	8.10	8.20	7.30	7.10	0.50	3.20
Uttar Pradesh	11.60	9.60	0.50	0.90	16.40	23.10	10.20	17.50
West Bengal*	31.30	35.10	10.80	5.70	3.90	5.80	0.50	18.90
All India	**7.80**	**9.00**	**15.10**	**12.90**	**8.30**	**11.70**	**5.30**	**8.90**

* Adjusted data

Similar to the pattern at the Primary level, more girls tend to drop-out even at the Upper primary level (Table 5.11). In some states, such as, Gujarat, Karnataka, Madhya Pradesh and Orissa, the boys'/girls' differental in drop-out rate in Grade VII is significant. May be the drop-out rate in an individual grade is small, but their joint effect on over-all Primary education is severe and marred the progress made through enrolment drives and campaigns. Thus, the high drop-out rates, especially of girls, suggest that unless it is checked effectively, the goal of EFA in the country is not likely to be realised.

5.5 Limitations of Projections

As is evident from the methods presented above that future enrolment is based on the following three important factors: (a) population of age '6' (or entry rate) (b) drop-out rate and (c) repetition rate. In addition, the existing enrolment in different grades forms the

Table 5.11 (A)

Grade-wise Repetition and Drop-out Rates at Upper Primary Level in Different States

Cohort : 1988-89

(In Percentages)

State	*Repetition Rate*						*Drop-out Rate*			
	VI		*VII*		*VIII*		*VI*		*VII*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
Andhra Pradesh*	0.00	0.00	0.00	0.00	0.00	0.00	7.30	21.30	21.70	21.90
Bihar	2.40	3.50	2.50	3.50	2.50	3.80	15.60	11.40	11.20	13.50
Gujarat	9.40	8.00	5.30	4.40	7.10	6.70	16.40	22.60	1.00	15.50
Haryana	10.60	9.60	11.30	11.60	12.60	12.80	6.80	19.90	17.70	12.60
Karnataka	0.00	0.00	0.00	0.00	0.00	0.00	10.70	10.90	0.50	12.00
Kerala	9.30	8.00	11.20	10.80	13.00	11.80	0.30	0.70	6.70	5.30
Madhya Pradesh*	52.70	66.50	4.40	3.70	8.90	11.00	0.50	3.70	4.90	11.00
Maharashtra	0.00	0.00	0.00	0.00	0.00	0.00	7.20	9.70	3.50	13.60
Orissa*	3.20	2.40	9.20	4.30	2.50	2.10	19.70	32.50	0.50	19.90
Punjab	4.90	3.70	4.40	3.10	3.10	2.00	4.10	2.80	2.20	5.70
Rajasthan	3.92	2.42	3.64	2.30	5.22	2.74	***	13.81	***	***
Tamil Nadu	10.10	11.40	9.60	14.50	10.50	15.10	14.20	13.40	6.00	5.20
Uttar Pradesh	6.40	6.00	5.90	5.10	6.70	5.50	7.10	7.00	3.10	6.40
West Bengal**	0.00	0.00	0.00	0.00	0.00	0.00	8.40	10.40	8.50	0.20
All India	**9.70**	**9.50**	**5.40**	**5.90**	**6.20**	**7.30**	**7.50**	**8.90**	**6.80**	**12.20**

* - 1987-88
** - 1986-87
*** - Data not reliable.

Table 5.11 (B)

Grade-wise Repetition and Drop-out Rates at Upper Primary Level in Different States

Cohort : 1988-89

(In Percentages)

State	*Repetition Rate*						*Drop-out Rate*			
	VI		*VII*		*VIII*		*VI*		*VII*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
Andhra Pradesh*	0.00	0.00	0.00	0.00	0.00	0.00	8.30	8.70	17.00	16.40
Bihar	2.40	3.20	2.40	3.40	2.50	3.20	12.00	15.00	7.40	17.60
Gujarat	10.30	8.50	3.70	4.70	6.90	6.30	7.00	15.50	0.50	2.00
Haryana	17.50	15.30	8.30	6.40	12.10	10.90	0.20	3.50	6.20	9.10
Karnataka	0.00	0.00	0.00	0.00	0.00	0.00	10.60	14.20	0.50	13.50
Kerala	8.50	7.10	10.80	10.10	11.60	10.10	1.40	1.40	5.80	5.80
Madhya Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	29.80	0.50	0.50	0.50
Maharashtra	0.00	0.00	0.00	0.00	0.00	0.00	7.80	8.50	2.70	12.30
Orissa	3.20	2.50	10.10	4.70	2.50	2.00	14.20	27.50	0.50	13.60
Punjab	7.10	5.50	6.10	4.50	4.80	3.60	0.50	0.50	2.40	4.40
Rajasthan	5.14	2.81	3.67	2.15	3.21	1.91	19.50	11.77	11.03	6.55
Tamil Nadu	7.80	8.80	8.70	8.70	8.80	8.40	16.40	10.30	2.40	2.50
Uttar Pradesh	6.10	5.70	5.80	5.00	6.50	5.40	10.10	9.70	2.80	6.80
West Bengal*	0.00	0.00	0.00	0.00	0.00	0.00	8.40	10.40	8.50	0.20
All India	**5.30**	**5.40**	**5.60**	**5.70**	**5.80**	**6.40**	**6.70**	**3.70**	**0.50**	**1.90**

* 1987-88

basis of future enrolment in subsequent grades which entirely depends upon the transition rates. As mentioned above, future population of age '6' plays an important role from which the system is expected to receive continuous flow of students through Grade I in the years which follow. Thus, it is important that it should be reliable and the projection of population (age '6') be based on the latest data. However, since only the total population and population in age-group 0-6 years is available (1991 Census), the same cannot be used to get single-age population which is otherwise required; at least population in the age-groups 0-4, 5-9, 10-14, 15-19 and 20-24 years. Therefore, adjusted Standing Committee (1989) estimates of population in different age-groups have been used in the present study to obtain population of age '6' (Chapter 3). When 1991 actual population in the age-group 0-6 years is compared to the Standing Committee (adjusted) estimates, it has been observed that the difference between the two estimates both at the all-India and state level is small and insignificant. However, in some states, such as, Andhra Pradesh, Gujarat, Kerala and Orissa, the deviations noticed are comparatively large but within acceptable limits. At the all-India level, deviations are only 2.34 and 1.10 per cent in the case of boys' and girls' population in the age-group 0-6 years.

Other major limitations in undertaking projection exercises based on the grade-transition method is the lack of qualitative data on enrolment in general and grade-wise enrolment and repeaters in particular (Mehta 1997, 2 and 3). Some of the limitations in enrolment data have already been highlighted in Chapter 3, most of which also holds true for grade-wise enrolment. One of the important factors highlighted above on which future enrolment depends is grade-wise enrolment which is available for the year 1990-91 showing a time-lag of about four years which itself is the single major factor which may question the quality of projections and the need for undertaking projection exercises based on such outdated data. But, in a number of states, such as, Andhra Pradesh, Madhya Pradesh, Orissa and West Bengal even enrolment (grade-wise) in the year 1989-90 is not available which may further deteriorate the quality of projections in these states. Thus, for the intermediary period i.e. 1991-92 to 1994-95, it is difficult to make reliable assumptions on future intake and transition rates. Further, it has been observed that in Haryana, enrolment of girls reported in the year 1988-89 in Grades V and VI are exactly the same. However, in Madhya Pradesh both enrolment and repeaters reported for the years 1988-89 and 1989-90 are the same and all boys (1.11 million) and girls (0.17 million) of Grade I in the year 1987-88 reached Grade II the next year. Whereas in Orissa, enrolment of Grade I for the year 1988-89 is not at all reported. In Rajasthan, enrolment in Grades I and II are jointly reported which gives no idea of the past entry rates in the state. However, the same is now made available for the year 1990-91. Further, it has been noticed that in West Bengal, grade-wise enrolment for three continuous years namely, 1987-88 to 1989-90 are reported to be exactly the same. Thus, due to limitations in enrolment data mentioned above, the grade-transition method in a number of states cannot be employed; hence data from nearby years are considered, which in fact, would also affect the reliability of the projections or even the projections may be flawed.

Apart from the existing enrolment and entry rate, the number of repeaters also have a significant impact on future enrolment. However, it is noticed that in a number of states, information on repeaters is not available/reported and hence promotion rate in these states is termed as grade-ratio. Projection exercises based on grade-ratios are not as reliable as those based on the promotion rates as it inflates both the promotion and drop-out rates. In other words, the method does not consider the number of repeaters which are in fact included in the enrolment of a particular grade and may increase the size of projected enrolment significantly. Thus, grade-ratios in Andhra Pradesh, Karnataka, Maharashtra and West Bengal are used for making predictions. Some distortion in the number of repeaters/repetition rate have also been noticed. In Gujarat, the repetition rate computed in Grade I is 37.30 (girls) and 34.90 (boys) per cent as against the drop-out rate of only 2.50 and 0.80 per cent. Whereas in Madhya Pradesh, in Grade VI, the repetition rate computed for cohort 1988-89 is 52.70 (boys) and 66.60 (girls) per cent. In Kerala, the number of repeaters reported in the year 1989-90 is 0.23 million which is 73.08 per cent of the total girls enrolment in Grade III. The drop-out rate in Haryana in Grade I reduced to zero in 1989-90 from 5.00 (boys) and 6.10 (girls) per cent in 1988-89.

Thus, in view of the distortions in enrolment data, grade-wise projections at the all-India level may not necessarily match with projections based on the trend analysis because of the reasons mentioned above and different time-periods used in both the methods. Trend analysis is based on the latest data up to the year 1992-93, whereas the grade-transition method is based on two years' data, 1990-91 being the latest one. For a long period, such as, 1991-92 to 2008-09, even at the state level, grade-wise projections may not produce reliable estimates of enrolment compared to those based on the trend analysis. The quality of projections may improve significantly, if the latest data on both enrolment (gradewise) and repeaters are used in projection exercises. Also, in view of the DPEP and other programmes with focus on micro plans, projection exercises need to be undertaken at least at the district level which should in fact be added together to obtain projections at the state level. However, largely it has been observed that even in the DPEP districts, targets on the future enrolment ratio (gross) and retention rates are fixed without undertaking projection exercises.

Thus, in the absence of reliable, up to date and complete information on enrolment and repeaters, the present set of projections (grade-wise) may be treated as tentative in nature which is subject to change when more reliable data is available. Assumptions on future entry and transition rates have been briefly presented below which are used in carrying out projections.

5.6 Future Entry and Transition Rates

Since projections are needed both at the all-India and state level, separate assumptions on future entry and transition rates are required to be laid down at the Primary and Upper primary levels of education. For projecting enrolment at the all-India level, it has been assumed that entry rate (apparent) will either remain constant or it would increase/ decrease in a linear or logistic manner of growth. Simultaneously, it has been assumed that the transition rates, namely, drop-out, repetition and promotion rates, would also follow either a linear or logistic trend or will remain constant throughout the projection period. Thus, by taking different permutations and combinations of the likely trend in the entry and transition rates, grade-wise enrolments are predicted during the period 1991-92 to 2008-09. However, since the present set of transition rates is not likely to continue for a long period, the same may affect the reliability of projections in the long term.

5.7 Results

The results of the grade-ratio and grade-transition methods applied to the all-India data have been presented below. Since, the latest grade-wise enrolment is available up to the year 1990-91, predictions during the period 1991-92 to 2008-09 could not be compared with the actual one. Hence, grade-wise enrolments (Grades I-V) are added together to obtain the enrolment at the Primary level. The aggregate enrolment during the period 1991-92 to 1993-94 has been compared with the official enrolment reported in the 'Selected Educational Statistics' and the period 1994-95 to 2008-09 with the projected enrolment based on the trend analysis.

5.7.1 All India Level

In order to estimate future new entrants in Grade I, entry rates during the period 1984-85 to 1990-91 (Table 5.1) have been used and regressions are run. The results reveal that both in absolute and ratio form, new entrants would decline during the period 1991-92 to 2008-09 which is also evident if boys' and girls' entry rates in the past are carefully examined (Section 5.2). Thus on the linear trend basis, the entry rate (boys) would decline from the existing 136.96 per cent in the year 1990-91 to 101.60 per cent in the year 2000-01 compared to 108.20 to 93.50 per cent in the case of girls. Similarly, in absolute terms, new entrants would decline to 11.28 million (boys) and 9.69 million (girls) in the year 2000-01 from the existing 14.90 million (boys) and 10.94 million (girls). A number of other assumptions on entry rate are also made which are summarised in Table 5.12. When 1990-91 entry rate is assumed to be constant and new entrants are computed, the results reveal that both boys and girls in Grade I would increase marginally in the years which follow but the increase is mainly due to likely increase in population ('6'). Likewise, transition rates have also been projected on linear trend basis (Table 5.13) which shows that over a period of time both boys' and girls' promotion rates would improve and drop-out rates would decline significantly. However, drop-out rate in Grades II and III would still be on the higher side which does not suggest that the goal of UPE in the country can be realised by the turn of the present century. However, the latest data (1991-92 to 1994-95) if used in the projections, will produce more reliable estimates of future transition rates.

Thus, when entry and transition rates are adjusted on the linear trend and boys' and girls' enrolment in primary grades are predicted, results reveal that a negative trend persists in boys' enrolment at the Primary level which is mainly due to decline in the entry rate (Table 5.15, alternative 'A_1'). When predicted enrolment is compared with the official enrolment (provisional) during the period 1991-92 to 1993-94, it has been noticed that the deviation between the two is small and insignificant. But after 1994-95, enrolment started declining which shows that GER in the year 2001 would be 101.99 per cent compared to which ratio of girls is expected to be only 87.54 per cent. However, girls' enrolment at the Primary level would increase marginally from 43.77 million in the year 1993-94 to 45.23 million in the year 2000-01. Similar results are obtained when these rates are fitted in a logistic growth model and/or different combinations of linear and logistic models. Hence, the results are not reported.

As an alternative, in the next exercise it is assumed that both the intake and transition rates would remain constant throughout the projection period and enrolment is predicted (alternative 'A'_2). The results (Table 5.14) reveal that enrolment (aggregate) in the initial period at the Primary level compares well with official enrolment and also with the projected enrolment based on the trend analysis (Table 4.2). As against the official enrolment of 59.22 (boys) and 42.36 (girls) million in the year 1991-92, the predicted enrolment is 59.14 (boys) and 42.34 (girls) million, thus showing a deviation of only 0.14 and 0.05 per cent. The corresponding deviation in the years 1992-93 and 1993-94 are 0.56 and 0.16 per cent in the case of boys and 2.52 and 3.36 per cent in the case of girls. Hence, it is expected that once the revised population estimates, more reliable and latest statistics on enrolment and number of repeaters are available and used in the projections, the discrepancy noticed would further reduce significantly. In the remaining years i.e. 1994-95 to 2008-09, when enrolment is compared with the projected enrolment based on the trend analysis, it has been noticed that both the estimates are comparable up to the year 2001, but thereafter a significant deviation in both boys' and girls' enrolment has been noticed. Perhaps, one of the reasons of this discrepancy may be due to the population of age '6' itself which is likely to remain stagnant for both boys and girls during the period

Table 5.12
Projected New Entrants : All India, 1990-91 to 2008-09

(In Millions)

	BOYS					*GIRLS*					
			At the Rate of					*At the Rate of*			
Year	*Constant (@136.96)*	*Linear***	*146.96%*	*148.96%*	*156.96%*	*Constant (@108.20%)*	*Linear***	*118.20%*	*120.20%*	*128.20%*	*153.60%*
	A_1	A_2	A_3/A_5	A_4/A_6	A_7	A_1	A_2	A_3/A_5	A_4/A_6	A_7	A_8
1990-91	14.90	14.90	14.90	14.90	14.90	10.94	10.94	10.94	10.94	10.94	10.94
1991-92	13.87	14.96	15.07	15.09	15.18	10.33	10.99	11.09	11.11	11.20	11.45
1992-93	13.62	15.02	15.24	15.28	15.46	10.29	11.05	11.25	11.29	11.46	11.98
1993-94	13.36	15.09	15.41	15.48	15.75	10.25	11.11	11.41	11.47	11.72	12.50
1994-95	13.11	15.15	15.59	15.68	16.03	10.21	11.16	11.57	11.66	11.99	13.04
1995-96	12.85	15.21	15.77	15.88	16.32	10.17	11.22	11.74	11.84	12.26	13.57
1996-97	12.54	15.21	15.88	16.01	16.54	10.07	11.22	11.84	11.97	12.46	14.04
1997-98	12.22	15.21	15.98	16.14	16.76	9.98	11.22	11.95	12.09	12.67	14.52
1998-99	11.91	15.21	16.09	16.27	16.98	9.88	11.22	12.05	12.22	12.88	14.99
1999-2000	11.60	15.21	16.20	16.40	17.20	9.79	11.22	12.16	12.34	13.09	15.46
2000-01	11.28	15.20	16.31	16.53	17.42	9.69	11.22	12.26	12.47	13.30	15.93
2001-02	10.99	15.23				9.62	11.22				
2002-03	10.69	15.25				9.54	11.24				
2003-04	10.39	15.27				9.46	11.26				
2004-05	10.09	15.29				9.38	11.27				
2005-06	9.79	15.32				9.30	11.30				
2006-07	9.49	15.34				9.22	11.32				
2007-08	9.19	15.36				9.14	11.34				
2008-09	8.89	15.38				9.06	11.35				

* - Actual

** - Decline due to negative value of coefficient. Infact, intake rate in the year 1985-96 declined from 154.19 to 136.96 per cent (boys) and 113.00 to 108.20 per cent (girls) in the year 1990-91.

- For details of alternatives, see Table 5.15.

Table 5.13
Projections of Transition Rates : Linear Adjustment*
All India: 1995 to 2005

(In Percentages)

Cohort	Rate	Grades I	II	III	IV	V
		BOYS				
1995	Promotion	95.40	86.10	91.20	93.90	-
	Repetition	4.60	1.80	1.80	3.80	5.30
	Drop-out	0.00	12.10	7.10	2.30	-
2001	Promotion	95.40	88.80	95.80	97.00	-
	Repetition	4.60	0.90	0.40	3.00	5.70
	Drop-out	0.00	10.30	3.80	0.00	-
2005	Promotion	95.40	90.70	98.90	97.50	-
	Repetition	4.60	0.30	0.00	2.50	6.00
	Drop-out	0.00	9.00	1.10	0.00	-
		GIRLS				
1995	Promotion	95.00	87.50	83.80	88.50	-
	Repetition	5.00	1.50	3.90	2.80	4.40
	Drop-out	0.00	11.00	12.40	8.70	-
2001	Promotion	94.70	90.90	84.50	92.40	-
	Repetition	5.30	0.20	3.80	1.40	4.10
	Drop-out	0.00	8.90	11.80	6.20	-
2005	Promotion	94.50	93.20	85.00	95.00	-
	Repetition	5.50	0.00	3.70	0.50	3.80
	Drop-out	0.00	6.80	11.30	4.50	-

* : Projections are based on transition rates during Cohorts 1985 to 1990.

Source : Projected by the author.

Table 5.14(A)
Grade-wise Predicted Enrolment at the Primary Level
All India : 1991 to 2009
Transition and Entry Rates : Constant*
BOYS

(In Millions)

(Alternative A_2)

Year	Enrolment					Total	Official	ASP	GER
	I	*II*	*III*	*IV*	*V*	*I-V*	*I-V*	*6-10*	*(%)*
1990-91	15.60	12.13	10.98	9.57	8.68	56.96	56.90	51.79	109.98
1991-92	15.77	13.90	10.32	10.12	9.03	59.14	59.22	52.38	112.91
1992-93	15.84	14.09	11.75	9.56	9.55	60.79	60.45	52.98	114.74
1993-94	15.91	14.16	11.96	10.81	9.06	61.90	61.80	53.59	115.51
1994-95	15.98	14.22	12.02	11.04	10.17	63.43		54.21	117.01
1995-96	16.04	14.28	12.07	11.11	10.43	63.93		54.84	116.58
1996-97	16.05	14.34	12.12	11.16	10.50	64.17		54.94	116.80
1997-98	16.04	14.34	12.17	11.20	10.55	64.30		55.03	116.85
1998-99	16.04	14.34	12.18	11.25	10.59	64.40		55.13	116.81
1999-2000	16.04	14.34	12.18	11.26	10.64	64.46		55.23	116.71
2000-01	16.04	14.33	12.17	11.26	10.64	64.44		55.33	116.46
2001-02	16.06	14.33	12.17	11.26	10.64	64.46		55.38	116.40
2002-03	16.09	14.35	12.17	11.25	10.64	64.50		55.43	116.36
2003-04	16.11	14.37	12.19	11.25	10.64	64.56		55.48	116.37
2004-05	16.13	14.39	12.20	11.27	10.64	64.63		55.54	116.37
2005-06	16.16	14.41	12.22	11.28	10.65	64.72		55.59	116.42
2006-07	16.18	14.43	12.24	11.30	10.67	64.82		55.64	116.50
2007-08	16.21	14.45	12.26	11.32	10.69	64.93		55.69	116.59
2008-09	16.23	14.47	12.28	11.34	10.71	65.03		55.74	116.67

* Cohort 1989-90

1997-98 to 2000-01. Also, transition rates (constant) used in carrying out predictions may not hold good for long and are likely to turn better which is evident from a number of ongoing programmes to promote primary education in the country in general and the DPEP programme in particular. Thus, if the past rates remain constant, it is likely that the GER would be 116.46 (boys) and 90.57 (girls) per cent which do not indicate that the goal of UPE in the country would be realised by the turn of the present century. However, the same is higher than the GER based on the linear trend.

In the next exercise of predictions, it has been assumed that the existing transition rates of cohort 1989-90 would remain constant but thè entry rate would increase at the rate of at least one percentage point

Table 5.14(B)
Grade-wise Predicted Enrolment at the Primary Level
All India : 1991 to 2009
Transition and Entry Rates : Constant*
GIRLS

(In Millions)

(Alternative A_2)

Year	Enrolment								
	I	*II*	*III*	*IV*	*V*	*Total I-V*	*Official I-V*	*ASP 6-10*	*GER (%)*
1990-91	11.47	8.87	7.89	6.58	5.62	40.43	40.42	48.25	83.79
1991-92	11.60	10.08	7.73	6.96	5.97	42.34	42.36	48.81	86.74
1992-93	11.66	10.22	8.75	6.85	6.31	43.79	44.92	49.37	88.70
1993-94	11.72	10.28	8.90	7.71	6.23	44.84	46.40	49.94	89.79
1994-95	11.78	10.33	8.96	7.87	6.97	45.91		50.52	90.87
1995-96	11.84	10.39	9.01	7.93	7.15	46.32		51.10	90.65
1996-97	11.84	10.44	9.05	7.97	7.20	46.50		51.22	90.78
1997-98	11.85	10.44	9.10	8.01	7.25	46.64		51.33	90.87
1998-99	11.85	10.45	9.10	8.05	7.28	46.73		51.45	90.83
1999-2000	11.85	10.45	9.11	8.06	7.32	46.79		51.56	90.75
2000-01	11.85	10.45	9.11	8.06	7.33	46.80		51.67	90.57
2001-02	11.87	10.45	9.11	8.06	7.33	46.82		51.73	90.51
2002-03	11.89	10.46	9.11	8.06	7.33	46.85		51.79	90.46
2003-04	11.91	10.48	9.12	8.06	7.33	46.90		51.86	90.44
2004-05	11.93	10.50	9.14	8.07	7.33	46.97		51.92	90.47
2005-06	11.95	10.52	9.15	8.09	7.34	47.05		51.98	90.52
2006-07	11.97	10.53	9.17	8.10	7.35	47.12		52.04	90.55
2007-08	11.99	10.52	9.18	8.12	7.37	47.18		52.10	90.56
2008-09	12.01	10.51	9.19	8.14	7.39	47.24		52.16	90.57

* Cohort 1989-90

each year (alternative 'A_3'). Alternative to which, it is assumed that the entry rate would remain constant up to the year 1994-95 and thereafter the same would increase at the rate of two percentage points per annum (alternative 'A_4'). Hence the entry rates would be 146.96 and 148.96 per cent in the case of boys and 118.20 and 120.20 per cent in the case of girls in the year 2000-01. Based on the assumed entry rates, new entrants are computed and presented in Table 5.12 which show that both boys and girls in Grade I would improve significantly from their existing level. Since the assumptions are not likely to remain valid for a long period, the predictions are obtained only up to the year 2001. The predicted enrolment (Grades I-V) and GER is presented in Tables 5.15 and 5.16 which reveals that boys' and girls' enrolment at the Primary level would increase both in absolute and ratio form (alternatives, 'A_3' and 'A_4'). Further, it has been observed that compared to predictions based on the constant transition and entry rates (alternative-A_2), a significant increase in enrolment is likely to take place, if the assumed entry rates are achieved and the existing level of transition rates are maintained. However, still the GER in the year 2000-01 (boys 124.69 per cent and girls 98.74 per cent) would not be enough to attain the status of UPE particularly in the case of girls. If the overage and underage children are taken out from enrolment, the resultant enrolment ratio would be 95.13 per cent (boys) and 75.33 per cent (girls) which is computed by considering 23.71 per cent as an estimate of grossness (Chapter 3). Hence, both entry and transition rates need to be improved significantly.

In view of the DPEP philosophy of reducing overall primary drop-out rates for all students to less than 10 per cent (means 90 per cent retention), in the next exercise of predictions, it has been assumed that promotion rates in the year 2000-01 would be 97.5, 95.0, 92.5 and 90.0 per cent from Grade I to II, II to III, III to IV and IV to V respectively which means that the remaining 2.5, 5.0, 7.5 and 10.0 per cent children in Grades I, II, III and IV would either repeat the respective grade or would drop out from the system. Simultaneously, it has been assumed that the entry rate would also improve on the basis of one and two percentage points each year as described in the previous alternatives (assumptions A_5, A_6 & A_7). However, the MHRD (1993) document on the DPEP is silent on both entry and grade-to-grade drop-out rates. The predicted enrolment at the Primary level has been presented in Table 5.15 along with the other alternatives. The enrolment during the period

Table 5.15

Predicted Enrolment at the Primary Level, All India:1991 to 2001

(In Millions)

	Boys							*Girls*							
	ALTERNATIVES							*ALTERNATIVES*							
	A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_8
1990-91	56.95	56.95	56.95	56.95	56.95	56.95	56.95	40.42	40.43	40.42	40.42	40.42	40.42	40.42	40.42
1991-92	58.83	59.14	59.25	59.27	59.37	59.40	59.49	41.68	42.34	42.44	42.46	42.59	42.61	42.69	42.95
1992-93	59.83	60.79	61.11	61.17	61.54	61.62	61.88	42.77	43.79	44.09	44.15	44.54	44.59	44.83	45.54
1993-94	60.78	61.90	62.51	62.63	63.44	63.56	64.07	43.77	44.84	45.42	45.53	46.28	46.40	46.86	48.34
1994-95	61.93	63.43	64.41	64.61	65.90	66.11	66.93	44.90	45.91	46.85	47.03	48.20	48.39	49.15	51.56
1995-96	61.43	63.93	65.40	65.66	67.32	67.62	68.82	45.35	46.32	47.66	47.93	49.43	49.71	50.83	54.37
1996-97	60.84	64.17	66.07	66.45	68.50	68.89	70.50	45.71	46.50	48.29	48.65	50.51	50.88	52.36	57.08
1997-98	59.95	64.30	66.68	67.16	69.60	70.10	72.11	45.86	46.64	48.86	49.30	51.52	51.99	53.86	59.78
1998-99	58.91	64.40	67.25	67.82	70.65	71.26	73.68	45.79	46.73	49.38	49.91	52.51	53.07	55.32	62.47

Contd.

	Boys							Girls							
	ALTERNATIVES							ALTERNATIVES							
	A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_8
1999-2000	57.70	64.46	67.76	68.43	71.64	72.36	75.19	45.54	46.79	49.87	50.48	53.45	54.11	56.75	65.14
2000-01	56.43	64.44	68.23	68.99	72.60	73.41	76.66	45.23	46.80	50.31	51.02	54.35	55.11	58.15	67.79

		Entry Rate	Transition Rates				
Alternatives:	A_1	Linear	Linear				
	A_2	Constant	Constant				
	A_3	146.96(B) and 118.20(G)	Constant				
	A_4	148.96(B) and 120.20(G)	Constant				
	A_5	146.96 and 118.20		I/II	II/III	III/IV	IV/V
			P.R	0.98	0.95	0.93	0.90
			D.R	0.02	0.05	0.07	0.10
	A_6	148.96 and 120.20			-do-		
	A_7	156.96 and 128.20			-do-		
	A_8	153.60(G)			-do-		

Table 5.16
Predicted Enrolment Ratio (Gross) at the Primary Level
All India : 1991 to 2001

(In Percentages)

	Alternatives						
	A_1	A_2	A_3	A_4	A_5	A_6	A_7
				BOYS			
1990-91	109.96	109.96	109.96	109.96	109.96	109.96	109.96
1991-92	112.31	112.91	113.12	113.15	113.36	113.40	113.57
1992-93	112.91	114.72	115.32	115.44	116.15	116.29	116.78
1993-94	114.55	116.66	117.81	118.04	119.56	119.79	120.75
1994-95	114.24	117.01	118.82	119.18	121.58	121.95	123.46
1995-96	112.02	116.58	119.26	119.73	122.76	123.30	125.49
1996-97	110.74	116.80	120.26	120.95	124.68	125.39	128.32
1997-98	108.94	116.85	121.17	122.04	126.48	127.39	131.04
1998-99	106.86	116.81	121.98	123.02	128.15	129.26	133.65
1999-2000	104.47	116.71	122.69	123.90	129.73	131.02	136.14
2000-01	101.99	116.46	123.31	124.69	131.21	132.68	138.55
				GIRLS			
1990-91	83.77	83.79	83.77	83.77	83.77	83.77	83.77
1991-92	85.39	86.74	86.95	86.99	87.26	87.30	87.46
1992-93	86.63	88.70	89.31	89.43	90.22	90.32	90.80
1993-94	87.65	89.79	90.95	91.17	92.67	92.91	93.83
1994-95	88.88	90.87	92.74	93.09	95.41	95.78	97.29
1995-96	88.75	90.65	93.27	93.80	96.73	97.28	99.47
1996-97	89.24	90.78	94.28	94.98	98.61	99.34	102.23
1997-98	89.34	90.86	95.19	96.05	100.37	101.29	104.93
1998-99	89.00	90.83	95.98	97.01	102.06	103.15	107.52
1999-2000	88.32	90.75	96.72	97.91	103.67	104.95	110.07
2000-01	87.54	90.57	97.37	98.74	105.19	106.66	112.54

Note : For details of alternatives, see Table 5.15

Table 5.17
Grade-wise Predicted Enrolment at the Primary Level
All India : 1991 to 2001
(Improved Entry and Transition Rates)

(In Millions)

Year	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
	I	*II*	*III*	*IV*	*V*			
				BOYS*				
1990-91	15.60	12.13	10.98	9.57	8.68	56.95	51.79	109.97
1991-92	15.79	14.03	10.44	10.12	8.99	59.37	52.38	113.35
1992-93	15.89	14.37	12.16	9.67	9.46	61.54	52.98	116.16
1993-94	15.99	14.60	12.64	11.19	9.02	63.44^{+}	53.59	118.38
1994-95	16.09	14.82	12.99	11.67	10.34	65.90	54.21	121.57
1995-96	16.18	15.04	13.34	12.00	10.76	67.32	54.84	122.75
1996-97	16.21	15.26	13.69	12.33	11.01	68.50	54.94	124.68
1997-98	16.23	15.42	14.04	12.65	11.25	69.60	55.03	126.48
1998-99	16.26	15.57	14.34	12.98	11.50	70.65	55.13	128.14
1999-2000	16.28	15.72	14.64	13.26	11.74	71.64	55.23	129.71
2000-01	16.31	15.88	14.94	13.54	11.94	72.60	55.33	131.21
				GIRLS**				
1990-91	11.47	8.87	7.87	6.58	5.62	40.42	48.25	83.75
1991-92	12.00	10.19	7.80	7.00	5.97	42.95	48.81	87.99
1992-93	12.48	10.79	9.01	6.97	6.33	45.59	49.37	92.34
1993-94	12.96	11.35	9.65	8.05	6.32	48.33^{+}	49.94	96.78
1994-95	13.45	11.91	10.24	8.68	7.27	51.56	50.52	102.06
1995-96	13.93	12.48	10.85	9.26	7.84	54.37	51.10	106.40
1996-97	14.34	13.06	11.47	9.86	8.36	57.08	51.22	111.44
1997-98	14.74	13.58	12.10	10.47	8.89	59.78	51.33	116.46
1998-99	15.14	14.10	12.69	11.10	9.43	62.47	51.45	121.42
1999-2000	15.54	14.63	13.29	11.69	9.99	65.14	51.56	126.34
2000-01	15.93	15.15	13.89	12.29	10.52	67.79	51.67	131.20

Note: * - Based on alternative A_5

** - Based on alternative A_8 (Table 5.15)

+ - Against which the official (provisional) figures in 1993-94 are 61.80 million (boys) and 46.40 million (girls).

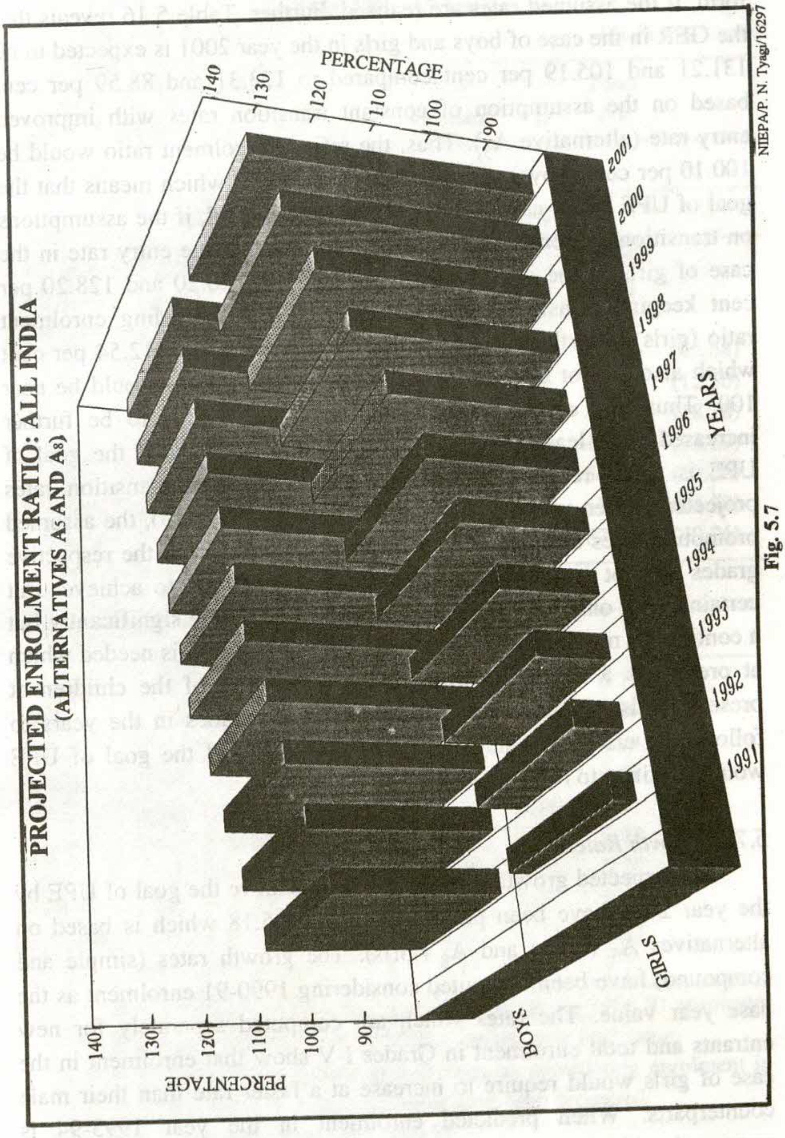

PROJECTED ENROLMENT RATIO: ALL INDIA
(ALTERNATIVES A5 AND A8)
PERCENTAGE
140
130
120
110
100
90
BOYS
GIRLS
YEARS
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
NIEPA/P. N. Tyagi/16297

Fig. 5.7

1991-92 to 2000-01 shows that compared to previous alternatives, a marked improvement is likely to take place both in absolute and ratio form, if the assumed rates are realised. Further, Table 5.16 reveals that the GER in the case of boys and girls in the year 2001 is expected to be 131.21 and 105.19 per cent compared to 123.31 and 88.59 per cent based on the assumption of constant transition rates with improved entry rate (alternative A_3). Thus, the refined enrolment ratio would be 100.10 per cent (boys) and 80.25 per cent (girls) which means that the goal of UPE in the case of boys would be achieved, if the assumptions on transition and entry rates are realised. Thus, if the entry rate in the case of girls in the year 2000-01 increased to 120.20 and 128.20 per cent keeping transition rates constant, the corresponding enrolment ratio (girls) is further likely to improve to 106.66 and 112.54 per cent which also do not suggest that refined enrolment ratio would be near 100. Thus, the entry rate in the case of girls needs to be further increased to at least 153.60 per cent (Alternative A_8), if the goal of UPE is to be realised. Keeping in view the future transition rates projected earlier on the basis of linear trend (Table 5.13), the assumed promotion rates of 97.5, 95.9, 92.5 and 90.0 per cent in the respective grades are not unrealistic and would not be difficult to achieve. But certainly, not only entry rates are required to improve significantly but a continuous monitoring of those who enter the system is needed which at present is a neglected area. Unless a majority of the children at present in the system do not move to higher grades in the years to follow, the efforts are not likely to bear fruits and the goal of UPE would continue to remain elusive.

5.7.2 Growth Rates

The projected growth rates required to achieve the goal of UPE by the year 2001 have been presented in Table 5.18 which is based on alternatives A_5 (boys) and A_8 (girls). The growth rates (simple and compound) have been computed considering 1990-91 enrolment as the base year value. The rates which are computed separately for new entrants and total enrolment in Grades I-V show that enrolment in the case of girls would require to increase at a faster rate than their male counterparts. When predicted enrolment in the year 1993-94 is compared with the provisional estimates, the deviations noticed are only 1.64 million (boys) and 1.93 million (girls). Thus, the goal of UPE

Table 5.18

Projected Growth Rates Required to Achieve Goal of UPE by Year 2001: All India

(In Percentages)

Year	*New Entrants*	*I*	*Total I-V*		*New Entrants*	*I*	*Total I-V*	
				Simple Growth Rate*				
	BOYS				***GIRLS***			
1991-92	1.12	1.24	4.25		4.66	4.62	6.26	
1992-93	2.28	1.86	8.07		9.51	8.81	12.79	
1993-94	3.45	2.50	11.39		14.26	12.99	19.57	
1994-95	4.63	3.12	15.72	(03.88)	19.20	17.26	27.56	(06.68)
1995-96	5.81	3.73	18.20	(06.12)	24.04	21.45	34.51	(12.50)
1996-97	6.54	3.91	20.28	(07.98)	28.34	25.02	41.22	(18.20)
1997-98	7.27	4.07	22.22	(09.71)	32.72	28.51	47.90	(23.69)
1998-99	7.99	4.22	24.05	(11.37)	37.02	32.00	54.55	(29.26)
1999-2000	8.72	4.36	25.80	(12.93)	41.32	35.48	61.16	(34.78)
2000-01	9.45	4.54	27.48	(14.44)	45.61	38.88	67.71	(40.26)
				Compound Growth Rate**				
	BOYS				***GIRLS***			
1991-92	1.12	1.24	4.25		4.66	4.62	6.26	
1992-93	1.13	0.93	3.96		4.65	4.31	6.20	
1993-94	1.14	0.83	3.66		4.54	4.16	6.14	
1994-95	1.14	0.77	3.72		4.49	4.06	6.27	
1995-96	1.14	0.74	3.40		4.40	3.96	6.11	
1996-97	1.06	0.64	3.13		4.25	3.79	5.92	
1997-98	1.01	0.57	2.91		4.13	3.65	5.75	
1998-99	0.97	0.52	2.73		4.02	3.53	5.59	
1999-2000	0.93	0.48	2.58		3.92	3.43	5.45	
2000-01	0.91	0.44	2.46		3.83	3.34	5.31	

Note: - Growth rates have been computed by considering 1990-91 enrolment (Boys 56.95 and Girls 40.42 Million) as the base year value.

- In the parenthesis revised growth rates by considering enrolment in year 1993-94 as the base year value have been presented.

* - Per cent increase from year 1990-91

** - Per cent per annum from year 1990-91.

Source: Computed by the author on the basis of Table 5.17.

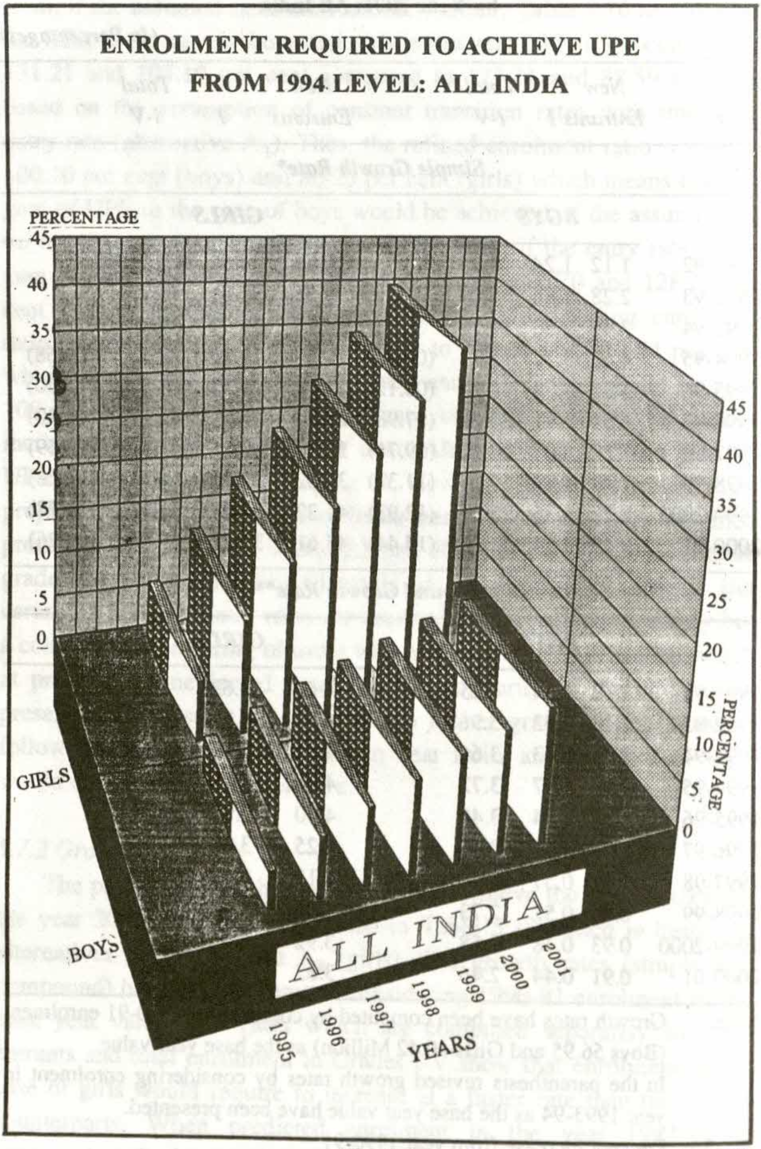


Fig. 5.8

NIEPA/P N. Tyagi/16397

can be achieved by the turn of the present century, if enrolment at the Primary level (aggregate) increases by at least 17.48 per cent in the case of boys and 46.10 per cent in the case of girls from their 1993-94 level. Achievement of high growth rate in a shorter period of about six years, particularly in the case of girls, seems to be a difficult task. However, on an average girls' enrolment in the past increased by about 6 per cent per annum which is similar to the present requirements.

5.8 State Level

Following the same methodology adopted at the all-India level, enrolment in different states have been predicted. Broadly, three sets of predictions are obtained which are based on the following assumptions:

A_1: Constant entry and transition rates
A_2: Improved entry but constant transition rates and
A_3: Improved entry and transition rates.

In order to make assumptions on future entry rates, criterion used at the all-India level i.e. one/two percentage point increase per annum, have been adopted. Similarly, assumptions on transition rates have been made (Section 5.7.1). However, it is worth mentioning here that while assuming future entry and transition rates, due consideration has been given to the existing rates which in most of the states are computed for the cohort 1989-90. For reasons mentioned in the previous section, enrolment is predicted during the period 1991-92 to 2000-01. However, based on the assumption of constant entry and transition rates, the same has been predicted up to the year 2008-09. Along with the gradewise enrolment (predicted) and new entrants, the enrolment ratio (gross) at the Primary level has also been presented. Growth rates required to achieve the goal of UPE by the year 2001 from 1993-94 level have also been computed and presented separately for boys and girls. The results at the state level are analysed and presented below.

5.8.1 Andhra Pradesh

Since grade-wise enrolment in Andhra Pradesh for the years 1988-89 and 1989-90 are reported to be the same, the average of the years 1988-89 and 1990-91 is considered enrolment for the year

1989-90. Therefore, a slight variation in transition rates has been noticed compared to the one reported in Table 5.10(B). Drop-out rates in Grade I, II, III and IV are as high as 24.4, 20.0, 13.1 and 5.5 per cent in the case of boys and 22.0, 22.1, 19.5 and 7.6 per cent in the case of girls. The high drop-out rates indicate that the same needs to be brought down significantly, if the goal of UPE is to be realised. In other words, the promotion rates which are at a low ebb needs to be improved significantly.

When entry (boys 154.40 per cent and girls 133.40 per cent) and transition rates are kept constant and enrolment is predicted, the results (Table 5.19, A_1) reveal a negative trend in enrolment at the Primary level which is mainly due to a likely fall in new entrants and due to a decline in the population of age '6'. However, predicted enrolment in the years 1991-92 and 1992-93 compares well with the official (provisional) enrolment and deviations obtained are small. The gross enrolment ratio for both boys and girls is likely to decline from the existing 116.83 (boys) and 91.22 (girls) per cent in the year 1990-91 to 104.67 and 88.79 per cent in the year 2008-09. Therefore, alternative to constant entry rate, in the next exercise, it is improved at the rate of one/two percentage point each year up to the year 2001 but the results did not show any significant improvement which is mainly due to low promotion rates. Therefore, both the entry and transition rates are improved in the next exercise and predictions are obtained. The results are reported in Table 5.19(A_2) which reveal that even if boys' entry rate maintain to its 1989-90 level and girls' rate improves to 153.0 per cent, simultaneously improving the promotion rates (97.5 per cent, 95.0 per cent, 92.5 per cent and 90.0 per cent), the goal of UPE in the state can be realised by the turn of the present century. It has been observed that entry rate in the case of boys in the year 1990-91 declined to 154.91 per cent from 168.91 per cent in the year 1989-90. However, even if the existing entry rate (boys) falls slightly to 149.00 per cent, the goal can still be realised by 2001 but promotion rates are to be improved significantly. While raising entry and transition rates, it has been observed that once GER of 131.20 per cent in the year 2001 is obtained, that set of rates have been retained. The GER of 131.20 per cent is obtained by assuming 23.71 per cent as an estimate of overage and underage children (Chapter 3). When projected enrolment (aggregate) at the Primary level in the year 1993-94 is compared with the official estimate (provisional), it has been observed that it is short by only 1.44 per cent in the case of boys and is higher by 1.27 per cent in the case of girls which indicates that during the rest of the period i.e. 1993-94 to 2000-01, it should increase at least by 20.34 per cent (boys) and 38.75 per cent (girls) from the 1993-94 level. Only then the goal of UPE in the state is likely to be realised. In the later years, enrolment is not comparable with the projected enrolment based on the trend analysis and the deviations obtained are comparatively high which indicate that during the intermediary period i.e. 1991-92 to 1994-95, the entry rate used in the predictions might have already been improved.

5.8.2 Bihar

In Bihar, the grade-wise promotion rates for both boys and girls are very low compared to other states included in the study. The corresponding repetition rates are also low which resulted into very high drop-out rates. The drop-out rates in Grade I, II, III and IV are as high as 34.0, 15.0, 12.7 and 9.7 per cent for boys and 35.3, 16.4, 12.4 and 13.2 per cent for girls (Table 5.10). The existing status of drop-out rates does not suggest that the goal of UPE can be achieved in the state in the near future. In the first exercise, the existing entry (boys 142.80 per cent, girls 86.60 per cent) and transition rates are assumed constant and enrolment is predicted [Table 5.20(A_1)]. The results reveal that during the period 1991-92 to 2008-09, new entrants in Grade I are expected to improve significantly by 9.92 per cent and 15.01 per cent respectively in the case of boys and girls. Increase in new entrants despite the constant entry rate is due to a corresponding population of age '6' which a is also expected to increase at a faster rate (Table 3.3). The corresponding aggregate enrolment (Grades I-V) is also likely to increase but the future enrolment ratio would decline from the existing 99.84 (boys) and 56.22 (girls) per cent in the year 1990-91 to 92.65 (boys) and 52.08 (girls) per cent in the year 2008-09. The likely decline in the enrolment ratio indicates that the rate of growth of enrolment increase (boys 11.04 per cent, girls 13.75 per cent) is likely to be slower than the rate of growth in population (6-10 years) increase (boys 19.66 per cent and girls 22.80 per cent). The predicted enrolment based on the constant entry and transition rates further reveals that in the initial period i.e. 1991-92 to 1993-94, it compares well with the official enrolment (provisional) and the deviations noticed are small and insignificant. However, in the later years when compared with the projected enrolment based on the trend analysis, it is found that the difference between the two is significant. But both the sets of projections give enough indication that the goal of UPE in the state is nowhere in the sight and is likely to remain elusive for a very long period, if the past trend is not reversed for the better. Therefore, in the next exercise, keeping the transition rates constant, the entry rate is significantly increased but the projected enrolment suggests that even if it is increased to 160.00 (boys) and 150 (girls) per cent, the enrolment ratio in 2001 would be only 101.57 and 81.44 per cent which suggests that without improving the existing transition rates, the situation in the state may not be improved. Therefore, in the last exercise of predictions, both the entry and transition rates are increased and enrolment is projected. The results suggest that the existing promotion rates in Grade I/II, II/III, III/IV and IV/V need to be improved significantly to at least 97.5, 95.0, 92.5 and 90.0 per cent respectively. Thus, if the existing entry rate improves to 150 per cent in the case of boys and 162 per cent in the case of girls and drop-out rates decline significantly, it is likely that the goal will be achieved by the year 2001. The results are presented in Table 5.20(A_2) which reveal that if 1993-94 enrolment is considered as the base year value, enrolment at the Primary level should be increased at least by 48.23 per cent (boys) and 163.48 per cent (girls). Increase in enrolment by 163.48 per cent in a shorter period of about six years, in the case of girls, seems to be very difficult to achieve but if the desired entry and transition rates are achieved, the same may become a reality. Otherwise the target date, at least in the case of girls, in the state needs to be shifted to a later date.

5.8.3 Gujarat

In Gujarat, the existing grade-to-grade promotion rates are low but the corresponding repetition rates are very high which result in low drop-out rates. The drop-out rates are as low as 0.8, 5.0, 3.8 and 6.8 per cent for boys and 2.5, 7.0, 8.9 and 9.8 per cent for girls respectively in Grades I, II, III, and IV. The drop-out rates suggest that a majority of the children who took admission in Grade I in the year 1989-90 remained in the system and only 0.80 and 2.50 per cent boys and girls did not reach Grade II which is mainly due to high repetition rates (boys 34.90 per cent, girls 37.30 per cent) in Grade I. In fact, high repetition rate inflates aggregate enrolment at the Primary level and about one third of the total children repeat Grade I in the following year. However, with each successive grade, the drop-out rate increases which is as high as 6.8 and 9.8 per cent respectively in the case of boys and girls in Grade IV.

In the first exercise of enrolment predictions, both the entry and transition rates are assumed constant and enrolment is obtained during the period 1991-92 to 2008-09 which is presented in Table 5.21(A_1). The table reveals that over a period of time new entrants and total enrolment in Grades I-V would continue to increase both in absolute and ratio form. Further, projected enrolment ratio indicates that the goal in the case of boys might have already been achieved but girls would still take a longer period to attain the status of UPE in the state. Though, girls' enrolment at the Primary level would increase from 2.51 million in the year 1990-91 to 2.83 million in the year 2008-09, due to likely increase in corresponding age-specific population (6-10 years), the progress is not reflected in the enrolment ratio. The girl population would increase from 2.38 million in the year 1991 to 2.64 million in the year 2009. Therefore, various alternatives are tried to project girls' enrolment. Since projections revealed that all boys of age-group 6-10 years are already in the system, no alternative is tried to project boys' enrolment. If the existing entry rate is improved to 123.0 per cent (by the year 2000-01) and the current level of transition rates are also maintained, it would be possible to bring all girls of age-group 6-10 years under the umbrella of education before the turn of the present century. Alternatively, if the promotion rates are improved significantly to 97.5, 95.0, 92.5 and 90.0 per cent from the existing 60.2, 70.3, 69.4 and 74.2 per cent and the entry rate also improves to about 146 per cent from the existing 94.3 per cent, the goal can be realised by the end of the year 2001. But keeping in view the high rate of repetition in the state, it would be very difficult to attain the desired level of promotion rates but certainly the drop-out rate in Grades II, II and IV needs immediate attention. The results are presented in Table 5.21(A_2) and 5.21(A_3).

5.8.4 Haryana

Compared to other states included in the present study, grade-wise promotion rates in Haryana are very high. Since the repetition rates in Grade I and II in the year 1990-91 are zero, the resultant drop-out rates are 8.7 and 9.9 per cent in the case of boys and 10.0 and 9.8 per cent in the case of girls. However, since the repetition rates in Grade III and IV are high, the corresponding drop-out rates are comparatively low i.e. 7.8 and 0.7 per cent (boys) and 9.5 and 9.0 per cent (girls). Keeping in view the high promotion rates, the corresponding enrolment ratio at the Primary level for both boys and girls is low which may be due to comparatively low entry rates i.e. (boys 102.70 per cent and girls 94.5 per cent). The enrolment ratio was 92.17 (boys) and 79.79 (girls) per cent in the year 1990-91. Thus, when 1990-91 entry and transition rates are assumed constant and enrolment is predicted, results reveal that new entrants in Grade I are likely to increase up to the year 1995-96 and thereafter the same would decline throughout the remaining period. A similar trend is observed in the case of both boys' and girls' population of age '6'. However, enrolment at the Primary level is likely to an increase marginally but due to the increase in corresponding age-specific population, the same is not reflected in the enrolment ratio. Thus based on the existing rates, the enrolment ratio (gross) is likely to decline to 91.85 (boys) and 81.63 (girls) per cent in the year 2000-01 from its 1990-91 level. The declining trend in GER despite high promotion rates may be due to the low entry rate which in fact may be even further lowered down, if overage and underage children are taken out from Grade I enrolment. A sample survey conducted by NIEPA (1995) revealed that as much as 43.17 per cent children in 1991-92 in Grade I did not conform to age '6'. Thus, at the existing level of entry rate, the goal of UPE in the state is not likely to be realised in the near future. Hence, in the next exercise of predictions, different permutations and combinations of entry and transition rates are tried and enrolment is obtained. The results reveal that keeping the existing transition rates constant, if the entry rate increases to 158.50 and 167.0

per cent in the case of boys and girls, the goal of UPE in the state may be achieved by the turn of the present century when GER would be 131.20 per cent (@23.71 per cent grossness). In the last alternative, both the transition and entry rates have been raised and enrolment is projected. Transition rates in the year 2000-01 are assumed to be 97.5, 95.0, 92.5 and 90.0 per cent respectively in Grades I to II, II to III, III to IV and IV to V (Section 5.7.1). Thus, if the entry rates in the year 2001 are raised to 156.0 and 158.0 per cent respectively in the case of boys and girls, the goal of UPE can be achieved. But the promotion rates need to be further improved which may not be difficult to achieve because of their existing high levels. The predicted enrolment is presented in Table 5.22 (A_1 and A_2). When official enrolment (provisional) is compared to predicted enrolment, the results reveal that if the enrolment at the Primary level is increased by at least 25.40 per cent (boys) and 39.00 per cent (girls) from their 1993-94 level, the goal of UPE may be realised sometime in the year 2001 which largely depends upon the future entry rates in general and girls in particular.

5.8.5 Karnataka

In Karnataka, both the entry and promotion rates are very high but since the repetition rate in different grades is zero, the resultant drop-out rates are also high. The drop-out rates are 7.90, 7.40, 10.60 and 18.50 per cent for boys and 12.40, 11.00, 17.30, and 24.50 per cent for girls respectively in Grades I, II, III and IV. Further, it has been observed that high entry and promotion rates resulted in high enrolment ratio (gross) which is as high as 121.46 per cent (boys) in the year 1990-91. But comparatively girls' enrolment ratio (107.66 per cent) is low which may be due to a very high incidence of drop-outs particularly in Grades III and IV. In the first exercise of predictions, both the entry and transition rates are assumed to be constant and enrolment is obtained during the period 1991-92 to 2008-09. A perusal of population of age-group 6-10 years and single-age population of age '6' reveals that over a period of time, the same is likely to decline significantly which means that fewer number of new entrants in the years which follow and is true for both boys' and girls' population. The decline in new entrants is also reflected in predicted enrolment presented in Table 5.23(A_1). The expected decline in new entrants would also decline enrolment in both absolute and ratio forms at the Primary level. However, it has been noticed that aggregate enrolment (Grades I-V) in the initial period i.e. up to the year 1994-95 would increase both in the case of boys and girls but thereafter the same decline which perhaps may be due to a decline in new entrants starting from the year 1991-92 onwards. The other probable reason of this decline may be due to a lower intake rate used in the predictions which in fact might have already improved significantly during the period 1991-92 to 1994-95. However, in the initial years when compared with the official enrolment (provisional), it has been found that deviation between the two is small and insignificant. At least in the case of boys, it looks that the goal is already realised or is likely to be realised shortly. Thus, unless data for the latest year is made available and used in the predictions, the current set of estimates of future enrolment may be treated as purely tentative in nature.

The different alternatives tried suggest that in the case of girls, even if the entry rate is increased to 175.0 per cent, the goal of UPE is not likely to be realised but the same can be obtained for boys, if the entry rate of 159.41 per cent is achieved by the year 2001. Alternatively, if promotion rates are improved in accordance with the DPEP guidelines, and if entry rates are also increased to 148.1 per cent (girls), the goal of UPE in the state may be realised by the turn of the present century. However, it is worth mentioning here that projections are based on the assumption of 23.71 per cent estimate of overage and underage children which is likely to change when more reliable state-specific estimates are available.

5.8.6 Kerala

Kerala is the only state in the country where entry rate for both boys and girls is almost the same. Compared to other states included in the present study, the entry rates are very low which indicate that the number of overage and underage children at the Primary level in the state is comparatively low which is also reflected in a study conducted by NIEPA (1992,1). So far as the promotion rates are concerned, they are very high irrespective of grades. But since the repetition rate is low in Grade I, most of the children who entered the system in the year 1989-90 reached Grade II next year. About 4.20 per cent boys and 4.30

per cent girls dropped out from the system before they reached Grade II which, compared to other states, is low. Since the repetition rate in Grades II, III, IV and V for both boys and girls are comparatively high, a majority of children remained in the system which in fact significantly improved the retention rate at the Primary level which is as high as 99.50 per cent for boys and 99.12 per cent for girls. The low entry rates are also reflected in the corresponding enrolment ratio (gross) which remained almost stagnant for more than 25 years and boys'/girls' differential in enrolment ratio is also the least in the country.

When both entry and transition rates are assumed to be constant and enrolment is predicted, results reveal a negative trend in the initial period in enrolment which is similar to the findings based on the trend analysis [Table 5.24(A_1)]. However, after 1999-2000, the same is likely to be picked up again but would be lower than the 1990-91 level. In the initial period, when compared to the official enrolment (provisional), it is noticed that deviations between the two are small and insignificant. In the year 1993-94, deviation obtained was as small as 0.19 per cent in the case of boys but slightly higher in the case of girls' enrolment (6.47 per cent). However, deviations in the year 1992-93 are only 1.42 per cent (boys) and 0.82 per cent (girls). In the remaining years i.e. 1994-95 to 2008-09, predicted enrolment is compared with the enrolment based on the trend analysis which reveals that deviation between the two is also marginal. One of the possible reasons for this deviation may be different sets of data used in both the exercises. The grade-transition method is applied to 1989-90 and 1990-91 data whereas the time-series analysis is based on data up to the year 1992-93. It is also possible that in the intermediary period i.e. 1991-92 to 1994-95, the situation, particularly that of entry rate might have improved significantly. But both the sets of estimates reveal that the enrolment ratio at the Primary level in the state in the year 2001 would be around hundred per cent. Further, it has been observed that the enrolment ratio and new entrants are also likely to decline, if assumption of constant rates are realised. A perusal of Table 3.3 reveals that boys' and girls' population of age '6' would also decline up to the year 1996-97 and thereafter the same is expected to look up again which is similar to population in the age-group of 6-10 years. Thus, alternative to constant entry and transition rates, in the next exercise entry rate was raised to obtain enrolment ratio of 131.20 per cent in the year 2001. The corresponding entry rates are 137.0 per cent (boys) and 141.0 per cent (girls). But available data (NIEPA, 1995) of Kerala indicate that a majority (95.27 per cent) of children in Grade I in the year 1991-92 were either aged five or six. Hence, the alternative to increase entry rate may be termed as tentative which is subject to change when more reliable estimates of overage and underage children for the state are available. In the last alternative, the existing promotion rates in Grades I/II, II/III, III/IV and IV/V are raised to 97.5, 95.0, 92.5 and 90.0 per cent respectively and enrolment is predicted which suggest that entry rates of at.least 137.0 and 141.0 per cent are required to obtain GER of 131.20 per cent which is similar to the one obtained in the previous alternative. Hence, the alternative was dropped. The predicted enrolment is presented in Table 5.24(A_2).

5.8.7 Madhya Pradesh

In Madhya Pradesh, till recently (1989-90) a large number of children used to repeat a particular grade which was as high as 9.92 per cent (boys) and 9.40 per cent (girls) in Grade V. But suddenly the repetition rate irrespective of grades has been reported as zero which resulted in a high incidence of drop-outs. The drop-out rate in Grade I has significantly increased from 0.50 per cent for boys in the year 1988-89 to 7.70 per cent in the year 1990-91 which may severely affect future enrolment. Quite a similar change in the drop-out rate is also noticed in the case of girls' enrolment in Grade I. The high incidence of drop-outs in Grade IV (24.50 per cent) especially those of girls, do not indicate that the goal of UPE in the state will be achieved in the near future. As much as 7.70 and 7.90 per cent boys and girls of those who took admission in Grade I in the year 1989-90 could not reach Grade II which is also reflected in the retention rates computed at the Primary level. Of the hundred children who entered the system in the year 1986-87, only 70.53 per cent boys and 61.50 per cent girls could reach Grade V in the year 1990-91, thus showing a drop-out rate of 29.47 (boys) and 38.50 (girls) per cent at the Primary level.

In the first exercise, both the entry and transition rates are kept constant and enrolment is predicted which is presented in Table

5.25(A_1). The predicted enrolment during the period 1992-93 to 2008-09 indicate that despite increase in new entrants and enrolment at the Primary level (Grades I to V), the corresponding gross enrolment ratio of boys is likely to decline but girls' enrolment ratio is expected to improve slightly. The increase in enrolment is not reflected in the enrolment ratio because of the likely increase in corresponding age-specific population which is expected to increase by 0.55 (boys) and 0.64 (girls) per cent during the period 1991-92 to 2008-09. In the initial period i.e. up to the year 1993-94, the predicted enrolment is comparable to the official enrolment. However, enrolment in the later years are not comparable with projections based on the trend analysis and deviations noticed are very high. Perhaps, entry rates used in the predictions might have improved in the intermediary period i.e. 1991-92 to 1994-95. Thus, different alternatives are tried and enrolment is predicted.

The results reveal that if the existing entry rates (boys 123.30 per cent and girls 102.70 per cent) are increased to 155.0 (boys) and 161.80 (girls) per cent by the year 2001, a GER of 131.20 per cent can be achieved if the existing high promotion rates (except in Grade IV) are maintained. Alternatively, both the promotion and entry rates are improved and predictions are obtained. Results suggest that even if the promotion rates are improved, at least 150.0 (boys) and 155.0 (girls) per cent entry rates would be required to achieve the goal of UPE in the state. The high entry rates suggest that increased promotion rates did not have significant impact on total enrolment mainly because of their existing high level. The predicted enrolment has been presented in Table 5.25(A_2) which reveals that enrolment at the Primary level in the remaining period should at least be increased by 17.17 and 51.24 per cent respectively in the case of boys and girls from the 1993-94 level. Then only the goal of UPE in the state is likely to be realised.

5.8.8 Maharashtra

In Maharashtra, promotion rates except in Grade I and Grade III are very high. For cohort 1989-90, from Grade II to III, it was as high as 99.6 per cent in the case of boys and 97.5 per cent in the case of girls. Compared to other states included in the study, the promotion rate from Grade I to II is high but since the state is following the policy of no detention up to Grade V, the corresponding drop-out rate in Grade I is also as high as 12.30 and 12.20 per cent respectively in the case of boys and girls. From cohort 1988-89 to 1989-90, drop-out rates are slightly declined but the same is still very high which do not suggest that the goal of UPE in the state will be realised in the near future. The boys'/girls' differential in drop-out rate is very small except in Grade IV but differential in intake rate in the year 1990-91 is 6.90 per cent.

In the first alternative, both the entry and transition rates are retained constant and boys' and girls' enrolment up to the year 2008-09 is predicted and presented in Table 5.25(A_1). Thus, if 1990-91 rates are continued in the future, it is likely that boys' enrolment in the initial years will increase up to 1995-96 and thereafter the same is expected to decline up to the year 1998-99. During the rest of the period i.e. 1998-99 to 2008-09, enrolment is expected to increase. However, girls' enrolment at the Primary level would continue to grow throughout the projection period (19.97 per cent). A perusal of future new entrants reveals that it would continue to increase which is due to increase in population of age '6'. Since the corresponding age-specific population of 6-10 years for both boys and girls would increase, the increase in enrolment is not reflected in the enrolment ratio which in fact would remain almost constant. In the last year of projection i.e. 2008-09, boys' and girls' enrolment ratio is expected to be 120.22 and 110.85 per cent respectively. In the initial period i.e. 1991-92 to 1993-94, aggregate enrolment (Grades I-V) compares well with the official estimates (provisional) for both boys and girls. In the later years also, predicted enrolment both in absolute and ratio forms are comparable with enrolment based on the trend analysis. Thus, both the sets of projections give enough indication that the enrolment ratio at the Primary level in the state would be lower than 131.20 per cent, the level required to attain the status of UPE. The estimate of overage and underage children in the state, if available, may throw more light on the likely year of achievement of the goal of UPE. In the absence of which, the present set of results are tentative in nature. Hence, in the next exercise, different assumptions on both the entry and the transition rates are made and enrolment is predicted.

The results reveal that if 1989-90 promotion rates remained constant and entry rates increased from the existing 140.2 (boys) and 133.3 (girls) per cent to 165.2 and 165.3 per cent, the goal of universal primary education in the state can be achieved in the year 2001. Alternatively, if the existing transition rates are increased and intake rates are also simultaneously increased to 148.2 (boys) and 146.30 (girls) per cent, the goal is likely to be realised by the turn of the present century when all children of age-group 6-10 years would be in Primary classes. The predicted enrolment is presented in Table 5.25(A_2) which reveals that in the remaining period, enrolment at the Primary level should at least be increased by 13.24 and 21.61 per cent respectively in the case of boys and girls. While fixing targets on promotion rates in the year 2001, it has been assumed that for both boys and girls it would increase in accordance with the DPEP guidelines except in Grade II which already has a promotion rate higher than 95.0 per cent.

5.8.9 Orissa

As mentioned, Grade I enrolment for two consecutive years in Orissa is not available which is required, if projection exercises based on analytical techniques are to be undertaken. Since, Grade I enrolment is available for the years 1987-88 and 1990-91, the same is utilised to get enrolment (Grade I) in the year 1989-90 by simple intrapolation based on the compound growth rates. Similarly, repeaters in Grade I are also obtained. However, enrolment in the remaining grades in the year 1990-91 is available. Therefore, predicted enrolment should be viewed in the light of these limitations. Since both the promotion and repetition rates in Orissa are comparatively low, the corresponding drop-out rates are high. For cohort 1989-90, drop out rates in Grade I, II, III and IV are 13.50, 12.70, 12.10 and 8.40 per cent for boys and 9.50, 11.60, 14.40 and 7.60 per cent for girls which reveals that except in Grade I, boys'/girls' differential in drop-out rate is marginal. But in the case of intake rate, the differential is as high as 47.90 per cent which indicates that the goal of UPE, particularly in the case of girls, is not likely to be achieved in the near future which is also amply supported by the prediction exercises undertaken on the basis of constant entry and transition rates. The predicted enrolment is presented in Table 5.25(A_1). However, the goal in the case of boys according to constant entry and transition rates has already been achieved in the state. But, if the predicted enrolment is compared with the official enrolment, it is found that in the initial period, the deviation between the two is abnormally high which does not suggest that the goal has already been achieved. Further, the results reveal that the enrolment ratio would continue to increase up to the year 1997-98 and thereafter the same may decline which means that the goal of UPE in the case of boys in the state may be achieved in that year. Based on the trend analysis, the corresponding likely year of achievement is 2004-05 which means that the entry rate used in the present exercise is not realistic as the same is based on the adjusted data which itself is as old as 1990-91. However, other alternatives are not tried to predict enrolment of boys.

When the entry rate in the case of girls is increased at the rate of one percentage point each year from their 1990-91 level and enrolment is predicted, results suggest that the corresponding enrolment ratio in the year 2001 would be only 107.89 per cent. Alternatively, if the entry rate is raised to 164.70 per cent, it is expected that the enrolment ratio would be 131.10 per cent, the level which is required to attain the status of UPE in the state. But in view of the existing rate (120.7 per cent), it would be very difficult to achieve the entry rate of 164.70 per cent in a short period of about six years from now. Therefore, in the next exercise, both the entry and transition rates are increased and predictions are obtained which suggest that if the entry rate is increased to 135.70 per cent by the year 2001, the goal of UPE can be realised, if the increased promotion rates in different grades are also achieved. While fixing targets of future promotion and repetition rates, it has been assumed that it would improve in accordance with the DPEP guidelines but in addition to that the existing repetition rates except in Grade I would also continue. The repetition rate in Grade I is assumed to be 2.0 per cent as against 3.80 per cent. The predicted enrolment presented in Table 5.27(A_2) reveals that in the rest of the period, the enrolment needs to increase by at least 66.48 per cent from their 1993-94 level. Keeping in view the existing entry and transition rates, realisation of assumed rates may not be a difficult task, as the same is already on higher side.

5.8.10 Punjab

Despite the high promotion and low drop-out rate especially of Grade I, the goal of UPE in the state still remains elusive mainly because of low entry rates. If the overage and underage children are taken out from Grade I enrolment, the resultant entry rates would be even lower than at present. In 1990-91, the entry rates were 92.40 and 88.10 per cent respectively in the case of boys and girls. About 96 per cent children who took admission in Grade I in the year 1989-90 were promoted to Grade II compared to which only 3 per cent children repeated Grade I next year thus showing a drop-out rate of only one per cent for both boys and girls. However, more children dropped out from Grade II (boys 5.0 per cent and girls 5.8 per cent) and III (boys 11.0 per cent and girls 10.8 per cent). The retention rates at the Primary and Upper primary levels of education in the state are 75.91 and 74.89 per cent which are above the all-India average. A perusal of population of age '6' reveals that it would decline up to the year 2000-01 and thereafter the same would go up. Quite a similar pattern is also noticed in the age-specific population (6-10 years). Due to declining population of age '6', the corresponding new entrants are also likely to decline but the same is expected to increase after the year 2001. The same trend is likely to be reflected in aggregate enrolment at the Primary level both in absolute and ratio forms. The analysis of likely trend is well supported by the prediction exercises undertaken by assuming constant entry and transition rates, results of which are presented in Table 5.28(A_1). In the initial period i.e. up to the year 1993-94, predicted enrolment compares well with the official (provisional) estimates and deviations obtained are small. But enrolment in the later years are not at all comparable with those based on the trend analysis. Perhaps, the entry rate used in the present exercise may not hold true for a long period, if the same is improved during the intermediary period i.e. 1991-92 to 1994-95. Therefore, in the next exercise, different alternatives are tried and enrolment is predicted.

If the entry rates are improved to 150.2 and 152.0 per cent respectively in the case of boys and girls, the goal of UPE in the state may be realised by the year 2001, if the existing transition rates are also maintained. Alternatively, if the promotion rates are increased in accordance with the DPEP guidelines and entry rates are improved to

139.2 (boys) and 144.0 (girls) per cent, the enrolment ratio of 131.20 per cent can be obtained by the end of year 2001 which is enough to attain the status of universal primary education. The existing repetition rates are also assumed to continue. The predicted enrolment is presented in Table 5.28(A_2) which suggests that in the remaining period i.e. 1993-94 to 2000-01, the enrolment is required to increase at least by 34.77 and 44.93 per cent respectively in the case of boys and girls. Increase in enrolment, particularly in the case of girls, in the remaining period may be difficult to achieve and the target date of achieving the goal of UPE in the state may have to be shifted to some other date.

5.8.11 Rajasthan

Rajasthan is the only state in the country (except Orissa for a few years) which till recently did not produce separate enrolment in Grade I. However, the same is now available for the year 1990-91 through 'Education in India'. Since the minimum requirement of the grade-transition method is two years' consecutive data, the existing data in its present form cannot be used to employ the method. Hence, adjustments have been made to obtain separate enrolment in Grade I and Grade II. Enrolment in Grade I and Grade II in the year 1990-91 are added together to obtain combined enrolment of Grades I and II. The percentage share of each grade to total enrolment in Grades I and II are worked out and the same rates are applied to the 1989-90 data to get separate enrolment in Grade I and Grade II. Therefore, prediction of enrolment in the state of Rajasthan should be viewed in the light of these limitations.

In Rajasthan, since both the promotion and repetition rates are very low, drop-out rates, especially in Grade I and II, are abnormally high which do not suggest that the goal of UPE is likely to be realised in the near future. As much as 34.00 and 32.90 per cent of total boys and girls who had taken admission in Grade I in the year 1989-90 did not reach Grade II next year. In other words 64.00 and 67.10 per cent boys and girls were either promoted to Grade II or repeated Grade I the next year. The retention rate in the year 1989-90 at the Primary level in the state was only 24.76 and 19.58 per cent which means in the process 75.24 per cent boys and 80.42 per cent girls dropped out from the system (MHRD, 1994). Unless a majority of children who enter the system are retained for at least five years, chances of realisation of the goal in the near future in the state is bleak. Not only the drop-out rate in Grade I is high but it is also equally high in Grade II (boys 29.80 per cent) and for girls even higher than that in Grade I (37.70 per cent). Comparatively, drop-out rates in Grade III and IV are very low due to a high promotion rate. It has also been observed that in Rajasthan, repetition rates are very low. Further, it has been noticed that boys'/ girls' differential in drop-out rate except in Grade III is not high but differential in entry rate is as high as 76.40 per cent which shows the status of girls' education in the state. A perusal of population of age '6' suggests that it would increase throughout the period 1991 to 2009, but the rate of increase would be only 0.10 and 0.13 per cent per annum compared to which population of age-group 6-10 years would increase at the rate of 0.08 and 0.48 per cent per annum.

In the first exercise of predictions, both the entry and transition rates are kept constant and enrolment is predicted during the period 1991-92 to 2008-09 which is presented in Table 5.29(A_1). The results reveal that despite continuous increase in new entrants and enrolment in Grades I-V, the corresponding enrolment ratio is not likely to improve which means that the increase in enrolment would be slower than the increase in population. In fact both boys' and girls' GER would decline throughout the projection period and would be only 99.10 (boys) and 48.65 (girls) per cent. In the initial period, the predicted enrolment is not comparable with the official enrolment (provisional) and the deviations obtained are abnormally high. The discrepancy may be because of two factors, first the entry rate might have improved in the intermediary period or may be the drop-out rates are reduced to a significant extent. Or the official enrolments itself are over reported. Therefore, in the next exercise, the transition rates are kept constant and the entry rates are increased to 227.0 (boys) and 250.0 (girls) per cent and the enrolment is predicted. The GER in 2001 would be only 130.31 and 128.0 per cent which suggests that without improving the existing transition rates, the situation in the state cannot be improved. Thus, keeping the existing repetition rates constant, the promotion rates in Grade I, II, III and IV are raised to 96.5, 95.0, 92.5 and 90.0 per cent in the year 2001. Also, if the entry rates are raised to

138.0 (boys) and 158.0 (girls) per cent, the corresponding enrolment ratio in the year 2001 would be about 131.20 per cent which according to 23.71 per cent estimate of overage and underage children is enough to achieve the goal of UPE. The predicted enrolment is presented in Table 5.29(A_2) which reveals that if boys' and girls' enrolment at the Primary level is increased by 13.79 and 118.70 per cent from the 1993-94 level, the goal of UPE in Rajasthan can be achieved by the turn of the present century. But realisation of high entry rate in the case of girls (158.0 per cent) from the existing 86.50 per cent in a short period of about six years from now would be very difficult, if not impossible. Simultaneously, the existing promotion rates also need to be improved significantly in Grade I and Grade II. Otherwise, the target date in the case of girls, needs to be shifted to some other date.

5.8.12 Tamil Nadu

In Tamil Nadu, the grade-wise promotion rates for both boys and girls are high but only a small percentage of total enrolment in Grades I, II and III repeat a particular grade which has resulted in a high incidence of drop-outs. The drop-out rates are as high as 11.50, 8.10 and 7.30 per cent in the case of boys and 11.70, 8.20 and 7.10 per cent in the case of girls. Comparatively since the repetition rate in Grade IV and Grade V is high, the corresponding drop-out rates are very low (boys 0.50 per cent and girls 3.20 per cent). In the first exercise of predictions, the existing entry (boys 156.30 per cent and girls 143.80 per cent) and the transition rates are kept constant and the enrolment during the period 1991-92 to 2008-09 is predicted [Table 5.30(A_1)]. The results reveal that the GER in the year 2008-09 is likely to be 137.95 per cent (boys) and 125.96 per cent (girls). In fact, a declining trend in enrolment both in absolute and ratio form has been noticed mainly due to a decline in new entrants in Grade I. A perusal of future population (age '6') presented in Table 3.3 further reveals that the fall in new entrants may be due to a likely decline in population of age '6'. The age-specific population of 6-10 years is also likely to decline which means a lower percentage of overage and underage children in future in Primary enrolment. The results further indicate that the goal in the case of boys in the state might have already been achieved which matches well with the earlier findings based on the trend analysis (Section 4.2.12). However, girls would still take a little more time to attain the status of UPE. If the existing entry rate is slightly improved (154.0 per cent), the goal can be realised in the near future but the transition rates have to be maintained at the current level. Since the latest entry rate is available for the year 1990-91, the same might have already improved by now which is evident from the fact that the official enrolments (provisional) in the year 1993-94 are higher by 5.15 per cent (boys) and 8.97 per cent (girls) than the predicted enrolment. Thus, other alternatives are not tried in the case of boys. The higher enrolment, particularly of girls, indicates that the entry rate might have improved significantly which also suggests that the goal in the case of girls already has been achieved in the state in the year 1993-94. But in the absence of 1993-94 grade-wise data, there is no option but to try different alternatives. Even if the entry (146.0 per cent) and promotion rates (97.5 per cent, 95.0 per cent, 92.5 per cent and 90.0 per cent) are slightly improved from the existing level, the targets can be achieved in the near future. The results are presented in Table 5.30(A_2).

5.8.13 Uttar Pradesh

Despite a high promotion rate (girls) in Grade I and Grade II, the goal still remains elusive in Uttar Pradesh mainly due to a very low intake rate. The intake rate is 103.2 per cent for boys compared to which only 62.2 per cent girls of age '6' were in the system showing boys'/girls' differential of 41 per cent in the year 1990-91. If the overage and underage children are taken out from Grade I enrolment, the differential may further increase to a significant level. Uttar Pradesh strictly follows a policy of no detention up to Grade III which means that those who are not promoted to higher grades will drop out from the system. The drop-out rates in Grade I and III are as high as 11.60 and 16.40 per cent in the case of boys and 9.60 and 23.10 per cent in the case of girls which with low entry rates further deteriorate the situation. The retention rates in the year 1990-91 were 65.18 and 41.68 per cent respectively at the Primary and Upper primary levels of education (Table 5.4). The future population of age '6' and 6-10 years reveals that both would continue to grow. Based on the constant entry and transition rates, the predicted boys' and girls' enrolment reveals that it is likely to increase throughout the projection period. But since the age-specific population is also likely to increase during the same period, the increase in enrolment at the Primary level is not reflected in the gross enrolment ratio computed for the purpose [Table 5.31(A_1)]. Despite a likely increase in new entrants, it is not expected that enrolment (Grades I-V) at the current level of entry rate would increase rapidly and would be enough to attain the goal of UPE. However, when compared with the official enrolment in the initial period, it has been noticed that the difference between the two is large and significant which is also found in later years when the same is compared with the projected enrolment based on the trend analysis. The high discrepancy (boys 15.16 per cent, girls 28.76 per cent) suggests that the constant entry rates used in the present set of predictions is not likely to hold good even in the initial period. Therefore, in the next exercise of predictions, the entry rate is raised to obtain the GER of 131.20 per cent. In the case of girls, the results suggest that even if the entry rate is raised to 170.0 per cent, the enrolment ratio will not be enough to achieve the goal. However, the goal in the case of boys can be achieved, if the entry rate is increased to 166.0 per cent by the year 2001. Thus, along with the entry rate, in the next exercise, transition rates are also improved in accordance with the DPEP guidelines of at least 10 per cent drop-rate at the Primary level. Hence, promotion rates in Grade I/II, II/III, III/IV and IV/V in the year 2001 are assumed to be 97.5, 99.5, 92.5 and 90.0 per cent in the case of boys and 97.5, 99.1 92.5 and 90.0 per cent in the case of girls (a higher promotion rate in Grade II is retained) and enrolment is predicted. The remaining children who are not promoted are assumed to be dropped out from the system except in Grades III and IV. Keeping in view the existing level of promotion rates in the state, it may not be difficult to achieve the assumed rates but certainly the entry rate needs to be improved to a significant extent (boys 147.0 per cent and girls 156.5 per cent) for which girl-focussed programmes are to be developed and implemented in the state. The results are presented in Table 5.31(A_2).

5.8.14 West Bengal

As in Andhra Pradesh, Orissa and Rajasthan, the enrolment data in West Bengal has also been adjusted. For three continuous years, namely, 1987-88, 1988-89 and 1989-90, the grade-wise enrolment reported is exactly the same. However, the same is now available for the year 1990-91. Therefore, growth rates (compound) during the period 1987-88 to 1990-91 are worked out separately for boys and girls and enrolment in the year 1989-90 is obtained. Hence, future enrolment in the state may be viewed in the light of the above limitations. The growth rates reveal that girls' enrolment in Grade I increased at a faster (5.72 per cent) rate than boys (2.73 per cent) which is also true for remaining grades except in Grade V.

The promotion rate in Grade I is very low (boys 68.7 per cent, girls 64.9 per cent) and since the state is following a policy of no detention up to Grade IV, the resultant drop-out rate is as high as 31.3 (boys) and 35.1 (girls) per cent which indicates that about one third of the total children who take admission in Grade I do not even reach Grade II which is also reflected in the existing retention rates. The retention rate (1989-90) in the state is as low as 34.26 and 22.96 per cent respectively at the Primary and Upper primary levels of education which is the lowest in the country except in Rajasthan. Compared to a high drop-out rate in Grade I, drop-out rates in the remaining grades are low except in Grade II (boys) and Grade IV (girls). Since the promotion rate from Grade IV to V in the case of girls is low, the resultant drop-out rate is as high as 18.90 per cent compared to which only 0.50 per cent boys dropped out from Grade IV. Therefore, boys'/girls' differential in drop-out rates except in Grade IV is not high which is also similar to the differential in intake rates. The intake rate in the year 1990-91 was as high as 163.70 (boys) and 155.96 (girls) per cent which indicates that at least 63.70 and 55.96 per cent overage and underage children were included in Grade I enrolment. Thus, despite the high drop-out rate in Grade I, the enrolment ratio at the Primary level is comparatively high which is due to high intake rates. The GER in the year 1990-91 was 116.86 per cent (boys) and 97.80 per cent (girls).

Keeping both the entry and transition rates constant, the enrolment during the period 1991-92 to 2008-09 has been predicted which is presented in Table 5.32(A_1). The predicted new entrants reveal that for both boys and girls, it would decline throughout the period which may be due to a likely fall in population of age '6' which is expected to decline by 7.65 and 7.75 per cent during the period 1990-91 to

2008-09. Fewer new entrants in future is also reflected in total enrolment (Grades I-V) which in fact would increase in the initial period i.e. up to 1993-94 but thereafter throughout the rest of the period, it would decline marginally. However, girls' enrolment is expected to increase from 3.78 million in the year 1990-91 to 3.93 million in the year 2008-09 showing a meagre increase of 0.22 per cent per annum. The predicted enrolment in the initial period is not comparable with the official enrolment except in the year 1991-92 for girls which is almost the same and the deviations obtained between the two estimates are very high. In the later years also, the same is not at all comparable with the projected enrolment based on the trend analysis. The enrolment ratio in the initial years is likely to improve slightly but thereafter due to fall in new entrants, the same would become almost stagnant.

In the next exercise of predictions, keeping the existing transition rates constant, the entry rate is raised to obtain a GER of 131.20 per cent. But the results reveal that even if the entry rate is raised to 190.0 (boys) and 200 (girls) per cent, the goal of UPE in the state is not likely to be achieved by the turn of the present century. Therefore, in the last exercise, the existing transition rates are increased in the light of the DPEP guidelines and enrolment is predicted. If the existing promotion rate in a grade is higher than that of 97.5, 95.0, 92.5 and 90.0 per cent, that rate is retained (Grade III and IV). The predicted enrolment suggests that if the existing entry rates are maintained and transition rates are improved, the resultant GER in the year 2001 would be much above 131.20 per cent. But realisation of the assumed transition rates may be difficult to achieve because of the low promotion and high drop-out rate in the state particularly in Grade I. Further, it has also been observed that the existing high entry rates are not likely to continue up to the year 2001 and may even decline in the years which follow. Thus, if the entry rates decline to 139.0 (boys) and 147.0 per cent (girls), the goal can still be achieved by the end of the year 2001 but the higher transition rates assumed in the predictions will have to be maintained. Table 5.32(A_2) further suggests that enrolment at the Primary level in the remaining period i.e. 1993-94 to 2000-01 should at least be increased by 3.56 (boys) and 6.31 (girls) per cent. Only then the goal of UPE in the state is likely to be realised by the year 2001.

The state-wise results are summarised in Table 6.2.

Table 5.19(A$_1$)
Grade-wise Predicted Enrolment at the Primary Level
ANDHRA PRADESH : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@154.4%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	1342	1342	991	775	658	607	4373	3743	116.83
1991-92	1339	1339	1015	793	673	622	4442	3826	116.10
1992-93	1336	1336	1012	811	689	636	4484	3910	114.68
1993-94	1332	1332	1009	809	705	651	4506	3996	112.76
1994-95	1329	1329	1007	807	703	666	4512	4083	110.51
1995-96	1325	1325	1005	805	701	664	4500	4173	107.84
1996-97	1324	1324	1002	803	700	663	4492	4191	107.18
1997-98	1323	1323	1001	801	698	661	4484	4209	106.53
1998-99	1322	1322	1000	800	696	659	4477	4227	105.91
1999-2000	1321	1321	999	800	695	658	4473	4244	105.40
2000-01	1320	1320	998	799	695	657	4469	4263	104.83
2001-02	1314	1314	997	798	694	657	4460	4250	104.94
2002-03	1309	1309	994	798	694	656	4451	4237	105.05
2003-04	1304	1304	990	795	693	656	4438	4223	105.09
2004-05	1299	1299	986	792	691	655	4423	4210	105.06
2005-06	1293	1293	982	788	688	653	4404	4197	104.93
2006-07	1288	1288	978	785	685	650	4386	4184	104.83
2007-08	1283	1283	974	782	682	647	4368	4171	104.72
2008-09	1278	1278	970	779	680	645	4352	4158	104.67

* - Same as new entrants because of no repeaters.

Table 5.19(A_1)
Grade-wise Predicted Enrolment at the Primary Level
ANDHRA PRADESH : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	New Entrants (@133.4%)	Enrolment I*	II	III	IV	V	Total I-V	ASP 6-10	GER (%)
1990-91	1038	1038	783	591	459	411	3282	3598	91.22
1991-92	1048	1048	810	610	475	425	3368	3670	91.77
1992-93	1058	1058	818	631	491	439	3437	3744	91.80
1993-94	1068	1068	825	637	508	454	3492	3820	91.41
1994-95	1078	1078	833	643	513	469	3536	3897	90.74
1995-96	1088	1088	841	649	517	474	3569	3975	89.79
1996-97	1087	1087	849	655	522	478	3591	3992	89.95
1997-98	1086	1086	848	661	527	483	3605	4010	89.90
1998-99	1086	1086	847	661	532	487	3613	4027	89.72
1999-2000	1085	1085	847	660	532	492	3616	4044	89.42
2000-01	1084	1084	846	660	531	491	3612	4062	88.92
2001-02	1079	1079	846	659	531	491	3606	4045	89.15
2002-03	1073	1073	841	659	531	491	3595	4028	89.25
2003-04	1067	1067	837	655	530	490	3579	4011	89.23
2004-05	1061	1061	832	652	528	490	3563	3994	89.21
2005-06	1055	1055	828	648	525	487	3543	3977	89.09
2006-07	1050	1050	823	645	522	485	3525	3960	89.02
2007-08	1044	1044	819	641	519	482	3505	3943	88.89
2008-09	1038	1038	814	638	516	480	3486	3926	88.79

* - Same as new entrants because of no repeaters.

Table 5.19(A_2)
Grade-wise Predicted Enrolment at the Primary Level
ANDHRA PRADESH : 1991 to 2001
Improved Transition and Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@149.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	1343	1342	991	775	658	607	4373	-	3743	116.86
1991-92	1335	1335	1044	808	678	619	4484	-	3826	117.20
1992-93	1326	1326	1067	866	711	634	4604	-	3910	117.75
1993-94	1318	1318	1090	901	767	662	4738*	-	3996	118.57
1994-95	1310	1310	1112	937	803	711	4873	4.35	4083	119.35
1995-96	1302	1302	1134	972	840	741	4989	6.83	4173	119.55
1996-97	1296	1296	1155	1009	878	771	5109	9.40	4191	121.90
1997-98	1291	1291	1179	1045	916	802	5233	12.06	4209	124.33
1998-99	1284	1284	1202	1084	955	833	5358	14.73	4227	126.76
1999-2000	1279	1279	1225	1124	997	864	5489	17.54	4244	129.34
2000-01	1274	1274	1247	1163	1039	897	5620	20.34	4263	131.83

* - Compared to which official enrolment (provisional) is 4670 thousand.

** - Same as new entrants because of no repeaters.

Table 5.19(A_2)
Grade-wise Predicted Enrolment at the Primary Level
ANDHRA PRADESH : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	New Entrants (@153.0%)	Enrolment					Total I-V	Per Cent Increase	ASP 6-10	GER (%)
		I**	II	III	IV	V				
1990-91	1038	1038	783	591	459	411	3282	-	3598	91.19
1991-92	1064	1064	830	624	482	423	3423	-	3670	93.27
1992-93	1089	1089	871	675	517	443	3595	-	3744	96.02
1993-94	1114	1114	913	723	568	474	3792*	-	3820	99.27
1994-95	1141	1141	957	774	617	519	4008	4.38	3897	102.85
1995-96	1168	1168	1001	827	669	563	4228	10.10	3975	106.36
1996-97	1183	1183	1047	883	725	609	4447	15.81	3992	111.40
1997-98	1198	1198	1084	941	785	658	4666	21.51	4010	116.36
1998-99	1213	1213	1122	993	848	710	4886	27.24	4027	121.33
1999-2000	1229	1229	1159	1063	907	765	5123	33.41	4044	126.68
2000-01	1244	1244	1198	1102	968	816	5328	38.75	4062	131.17

* - Compared to which official enrolment (provisional) is 3840 thousand.

** - Same as new entrants because of no repeaters.

Table 5.20(A_1)
Grade-wise Predicted Enrolment at the Primary Level
BIHAR : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@142.8%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	1824	1980	1214	994	821	724	5733	5742	99.84
1991-92	1831	1986	1207	1013	854	741	5801	5864	98.93
1992-93	1838	1993	1210	1008	871	770	5852	5987	97.75
1993-94	1845	2001	1215	1010	867	786	5879	6114	96.16
1994-95	1852	2008	1219	1014	869	783	5893	6243	94.39
1995-96	1859	2016	1224	1018	872	784	5914	6375	92.77
1996-97	1873	2030	1229	1022	875	787	5943	6420	92.57
1997-98	1886	2045	1237	1025	879	790	5976	6466	92.42
1998-99	1900	2060	1246	1032	882	793	6013	6512	92.34
1999-2000	1914	2075	1256	1040	888	796	6055	6558	92.33
2000-01	1928	2090	1265	1047	894	801	6097	6605	92.31
2001-02	1938	2101	1274	1055	901	807	6138	6638	92.47
2002-03	1947	2111	1281	1063	907	813	6175	6671	92.56
2003-04	1957	2121	1287	1068	914	818	6208	6704	92.60
2004-05	1965	2131	1294	1074	919	824	6242	6738	92.64
2005-06	1975	2142	1300	1079	923	829	6273	6771	92.65
2006-07	1985	2152	1306	1084	928	833	6303	6804	92.64
2007-08	1995	2163	1312	1089	932	837	6333	6837	92.63
2008-09	2005	2175	1319	1094	937	841	6366	6871	92.65

Table 5.20(A_1)
Grade-wise Predicted Enrolment at the Primary Level
BIHAR : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	*New Entrants (@86.6%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	993	1076	636	499	415	333	2959	5263	56.22
1991-92	1002	1086	644	519	431	358	3038	5373	56.54
1992-93	1010	1095	651	527	449	372	3094	5485	56.41
1993-94	1019	1105	656	532	456	388	3137	5599	56.03
1994-95	1028	1115	662	537	461	394	3169	5715	55.45
1995-96	1037	1124	668	542	465	398	3197	5834	54.80
1996-97	1046	1134	674	546	469	402	3225	5889	54.76
1997-98	1055	1143	679	551	473	405	3251	5944	54.69
1998-99	1063	1153	685	556	477	409	3280	5999	54.68
1999-2000	1073	1163	691	561	481	412	3308	6055	54.63
2000-01	1082	1173	696	565	485	416	3335	6111	54.57
2001-02	1089	1181	703	570	490	419	3363	6154	54.65
2002-03	1097	1189	708	575	493	423	3388	6197	54.67
2003-04	1104	1197	712	579	498	426	3412	6241	54.67
2004-05	1111	1205	717	583	501	430	3436	6285	54.67
2005-06	1119	1213	722	587	505	433	3460	6329	54.67
2006-07	1126	1221	727	591	508	436	3483	6373	54.65
2007-08	1134	1229	732	595	512	439	3507	6418	54.64
2008-09	1142	1073	737	599	515	442	3366	6463	52.08

Table 5.20(A_2)
Grade-wise Predicted Enrolment at the Primary Level
BIHAR : 1991 to 2001
Improved Transition and Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@150.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*				
1990-91	1824	1980	1214	994	821	724	5733	-	5742	99.84
1991-92	1840	1979	1279	1027	861	741	5887	-	5864	100.39
1992-93	1856	1980	1354	1096	896	775	6101	-	5987	101.90
1993-94	1873	1981	1429	1176	964	808	6358*	-	6114	103.99
1994-95	1889	1982	1503	1258	1042	868	6653	13.63	6243	106.57
1995-96	1906	1983	1577	1342	1123	938	6963	18.92	6375	109.22
1996-97	1929	1991	1650	1426	1206	1011	7284	24.41	6420	113.46
1997-98	1953	2000	1729	1511	1291	1086	7617	30.09	6466	117.80
1998-99	1977	2008	1808	1603	1379	1162	7960	35.95	6512	122.24
1999-2000	2001	2017	1887	1697	1473	1241	8315	42.02	6558	126.79
2000-01	2025	2025	1966	1793	1570	1325	8679	48.23	6605	131.40

* - Compared to which official enrolment (provisional) is 5855 thousand.

Table 5.20(A_2)
Grade-wise Predicted Enrolment at the Primary Level
BIHAR : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@163.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*				
1990-91	993	1076	636	499	415	333	2959	-	5263	56.22
1991-92	1090	1166	685	528	434	359	3172	-	5373	59.04
1992-93	1189	1262	786	577	463	378	3466	-	5485	63.19
1993-94	1289	1358	899	672	510	404	3843*	-	5599	68.64
1994-95	1391	1454	1021	782	597	447	4301	41.25	5715	75.26
1995-96	1495	1551	1149	901	699	525	4825	58.46	5834	82.70
1996-97	1599	1648	1284	1030	811	618	5391	77.04	5889	91.54
1997-98	1706	1745	1426	1169	934	721	5995	96.88	5944	100.86
1998-99	1815	1842	1574	1317	1067	833	6633	117.83	5999	110.57
1999-2000	1925	1939	1729	1475	1210	956	7309	140.03	6055	120.71
2000-01	2036	2036	1891	1643	1364	1089	8023	163.48	6111	131.29

* - Compared to which official enrolment (provisional) is 3045 thousand.

Table 5.21(A_1)
Grade-wise Predicted Enrolment at the Primary Level
GUJARAT : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(*In Thousands*)

Year	*New Entrants (@112.5%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	606	913	696	645	563	491	3308	2532	130.65+
1991-92	603	922	721	668	583	508	3402	2554	133.20
1992-93	601	923	731	692	604	526	3476	2576	134.94
1993-94	599	922	733	705	626	545	3531*	2599	135.86
1994-95	598	919	733	710	640	565	3567	2621	136.09
1995-96	596	916	732	711	646	579	3584	2644	135.55
1996-97	596	916	730	710	648	586	3590	2643	135.83
1997-98	597	917	729	708	647	588	3589	2642	135.84
1998-99	597	917	729	707	646	588	3587	2641	135.82
1999-2000	298	918	730	707	645	587	3587	2640	135.87
2000-01	599	919	731	707	645	586	3588	2639	135.96
2001-02	606	927	731	708	645	586	3597	2659	135.28
2002-03	612	936	736	709	645	586	3612	2679	134.83
2003-04	619	946	743	713	646	587	3635	2700	134.63
2004-05	626	956	751	719	649	587	3662	2720	134.63
2005-06	633	967	759	726	654	589	3695	2741	134.80
2006-07	640	978	767	734	660	593	3732	2762	135.12
2007-08	647	989	776	742	667	599	3773	2784	135.52
2008-09	655	1000	785	750	674	605	3814	2805	135.97

* Compared to which official enrolment (provisional) is 3406 thousand.

+ Since enrolment ratio is already above 131.20 per cent, other alternatives are not tried.

Table 5.21(A_1)
Grade-wise Predicted Enrolment at the Primary Level
GUJARAT : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	New Entrants (@94.3%)	Enrolment					Total I-V	ASP 6-10	GER (%)
		I	II	III	IV	V			
1990-91	474	743	544	489	393	336	2505	2375	105.47
1991-92	473	750	560	499	403	344	2556	2396	106.68
1992-93	472	752	567	513	411	352	2595	2416	107.41
1993-94	471	751	570	521	422	360	2624	2436	107.72
1994-95	469	749	570	525	429	369	2642	2457	107.53
1995-96	468	748	569	526	433	376	2652	2478	107.02
1996-97	468	747	568	525	434	380	2654	2475	107.23
1997-98	468	747	567	524	434	382	2654	2473	107.32
1998-99	468	747	567	524	433	382	2653	2471	107.37
1999-2000	469	747	567	523	433	381	2651	2468	107.41
2000-01	469	747	567	523	432	381	2650	2466	107.46
2001-02	474	753	567	523	432	380	2655	2487	106.76
2002-03	480	761	571	523	432	380	2667	2507	106.38
2003-04	486	770	576	526	432	380	2684	2528	106.17
2004-05	492	779	583	530	434	380	2706	2549	106.16
2005-06	498	788	590	536	438	381	2733	2571	106.30
2006-07	504	798	597	542	442	384	2763	2592	106.60
2007-08	510	808	604	549	447	387	2795	2614	106.92
2008-09	517	818	612	555	452	392	2829	2636	107.32

Table 5.21(A_2)
Grade-wise Predicted Enrolment at the Primary Level
GUJARAT : 1991 to 2001
Constant Transition and Improved Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@123.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*				
1990-91	474	743	544	489	393	336	2505	-	2375	105.47
1991-92	487	765	560	499	403	344	2571	-	2396	107.30
1992-93	501	786	576	513	411	352	2638	-	2416	109.19
1993-94	513	807	592	528	422	360	2709*	-	2436	111.21
1994-95	526	827	608	542	434	369	2780	7.88	2457	113.15
1995-96	539	848	624	557	446	379	2854	10.75	2478	115.17
1996-97	554	870	640	572	458	390	2930	13.70	2475	118.38
1997-98	568	892	656	586	470	401	3005	16.61	2473	121.51
1998-99	582	915	673	601	482	411	3082	19.60	2471	124.73
1999-2000	597	938	690	616	494	422	3160	22.62	2468	128.04
2000-01	611	961	708	632	507	432	3240	25.73	2466	131.39

* - Compared to which official enrolment (provisional) is 2577 thousand.

Table 5.21(A_2)
Grade-wise Predicted Enrolment at the Primary Level
GUJARAT : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@147.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*				
1990-91	474	743	544	489	393	336	2505	-	2375	105.47
1991-92	500	749	576	501	408	345	2579	-	2396	107.64
1992-93	525	748	602	529	423	358	2660	-	2416	110.10
1993-94	549	745	621	557	452	373	2748	-	2436	112.81
1994-95	574	741	634	578	481	399	2833*	9.83	2457	115.30
1995-96	599	737	650	595	506	426	2914	13.08	2478	117.59
1996-97	625	735	662	610	528	450	2985	15.83	2475	120.61
1997-98	651	734	676	624	547	471	3052	18.43	2473	123.41
1998-99	678	732	689	638	566	490	3115	20.88	2471	126.06
1999-2000	704	731	701	652	585	508	3177	23.28	2468	128.73
2000-01	730	730	713	666	603	526	3238	25.65	2466	131.31

* - Compared to which official enrolment (provisional) is 2577 thousand.

Table 5.22(A$_1$)
Grade-wise Predicted Enrolment at the Primary Level
HARYANA : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	New Entrants (@102.7%)	Enrolment					Total I-V	ASP 6-10	GER (%)
		I*	II	III	IV	V			
1990-91	236	236	207	197	179	170	989	1073	92.17
1991-92	239	239	215	206	178	174	1012	1097	92.25
1992-93	242	242	218	214	186	174	1034	1122	92.16
1993-94	245	245	221	218	194	181	1059	1147	92.33
1994-95	249	249	225	220	197	188	1079	1172	92.06
1995-96	252	252	227	223	200	192	1094	1198	91.32
1996-97	250	250	230	226	203	195	1104	1199	92.08
1997-98	249	249	229	229	205	197	1109	1199	92.49
1998-99	247	247	227	228	208	200	1110	1200	92.50
1999-2000	246	246	226	227	207	203	1109	1201	92.34
2000-01	244	244	224	225	206	202	1101	1202	91.60
2001-02	243	243	223	224	204	201	1095	1197	91.48
2002-03	243	243	222	223	204	200	1092	1192	91.61
2003-04	242	242	222	222	202	199	1087	1188	91.50
2004-05	241	241	221	221	202	197	1082	1183	91.46
2005-06	241	241	220	221	201	197	1080	1179	91.60
2006-07	240	240	220	220	200	196	1076	1174	91.65
2007-08	239	239	219	220	200	196	1074	1170	91.79
2008-09	239	239	218	219	199	195	1070	1165	91.85

* - Same as new entrants because of no repeaters.

Table 5.22(A_1)
Grade-wise Predicted Enrolment at the Primary Level
HARYANA : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	New Entrants (@94.5%)	Enrolment					Total I-V	ASP 6-10	GER (%)
		I*	II	III	IV	V			
1990-91	194	194	165	157	135	115	766	960	79.79
1991-92	197	197	175	163	139	119	793	981	80.84
1992-93	199	199	177	173	144	123	816	1003	81.36
1993-94	202	202	180	176	152	128	838	1025	81.76
1994-95	205	205	182	178	156	135	856	1048	81.68
1995-96	208	208	185	181	158	138	870	1071	81.23
1996-97	207	207	187	184	161	140	879	1073	81.92
1997-98	206	206	186	186	162	142	882	1074	82.12
1998-99	205	205	185	185	165	144	884	1076	82.16
1999-2000	203	203	184	184	164	147	882	1077	81.89
2000-01	202	202	183	183	164	146	878	1079	81.37
2001-02	202	202	182	182	163	146	875	1075	81.40
2002-03	201	201	182	181	162	145	871	1070	81.40
2003-04	201	201	181	181	161	144	868	1066	81.43
2004-05	200	200	181	180	160	143	864	1062	81.36
2005-06	199	199	180	180	160	143	862	1057	81.55
2006-07	199	199	179	179	159	142	858	1053	81.48
2007-08	198	198	179	178	159	142	856	1049	81.60
2008-09	198	198	178	178	158	141	853	1045	81.63

* - Same as new entrants because of no repeaters.

Table 5.22(A_2)
Grade-wise Predicted Enrolment at the Primary Level
HARYANA : 1991 to 2001
Constant Transition and Improved Entry Rates
BOYS

(In Thousands)

Year	New Entrants (@158.5%)	Enrolment					Total I-V	Per Cent Increase	ASP 6-10	GER (%)
		I**	II	III	IV	V				
1990-91	236	236	207	197	179	170	989	-	1073	92.17
1991-92	252	252	215	206	178	174	1025	-	1097	93.44
1992-93	269	269	230	214	186	174	1073	-	1122	95.63
1993-94	285	285	245	228	194	181	1133*	-	1147	98.78
1994-95	303	303	261	243	206	188	1201	-	1172	102.47
1995-96	320	320	276	259	219	200	1274	1.11	1198	106.34
1996-97	332	332	292	274	233	213	1344	6.67	1199	112.09
1997-98	343	343	303	290	247	227	1410	11.90	1199	117.60
1998-99	355	355	313	301	262	240	1471	16.75	1200	122.58
1999-2000	365	365	324	312	272	255	1528	21.27	1201	127.23
2000-01	377	377	334	322	282	265	1580	25.40	1202	131.45

* - Compared to which official enrolment (provisional) is 1260 thousand.

** - Same as new entrants because of no repeaters.

Table 5.22(A_2)
Grade-wise Predicted Enrolment at the Primary Level
HARYANA : 1991 to 2001
Constant Transition and Improved Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@167.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*				
1990-91	194	194	165	157	135	115	766	-	960	79.79
1991-92	212	212	175	163	139	119	808	-	981	82.36
1992-93	230	230	191	173	144	123	861	-	1003	85.84
1993-94	249	249	207	188	152	128	924*	-	1025	90.15
1994-95	268	268	224	204	166	135	997	-	1048	95.13
1995-96	288	288	241	221	180	146	1076	5.18	1071	100.47
1996-97	302	302	259	238	195	159	1153	12.71	1073	107.46
1997-98	316	316	272	256	210	172	1226	19.84	1074	114.15
1998-99	330	330	285	269	226	186	1296	26.69	1076	120.45
1999-2000	344	344	297	282	238	200	1361	33.04	1077	126.37
2000-01	358	358	310	294	249	211	1422	39.00	1079	131.79

* - Compared to which official enrolment (provisional) is 1023 thousand.

** - Same as new entrants because of no repeaters.

Table 5.23(A_1)
Grade-wise Predicted Enrolment at the Primary Level
KARNATAKA : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	New Entrants (@150.4%)	Enrolment					Total I-V	ASP 6-10	GER (%)
		I*	II	III	IV	V			
1990-91	787	787	696	645	562	434	3124	2572	121.46
1991-92	782	782	725	645	576	458	3186	2589	123.06
1992-93	796	796	720	672	576	470	3234	2606	124.10
1993-94	800	800	733	667	600	470	3270	2624	124.62
1994-95	804	804	736	679	596	489	3304	2641	125.10
1995-96	808	808	740	682	607	486	3323	2659	124.97
1996-97	797	797	744	686	610	494	3331	2641	126.13
1997-98	787	787	734	689	613	497	3320	2622	126.62
1998-99	777	777	724	680	616	500	3297	2604	126.61
1999-2000	767	767	715	671	608	502	3263	2586	126.18
2000-01	757	757	706	663	600	496	3222	2568	125.47
2001-02	754	754	697	654	592	489	3186	2549	124.99
2002-03	750	750	694	646	585	483	3158	2530	124.82
2003-04	747	747	691	643	577	477	3135	2512	124.80
2004-05	744	744	688	640	575	470	3117	2493	125.03
2005-06	741	741	685	637	572	468	3103	2475	125.37
2006-07	737	737	682	634	570	466	3089	2456	125.77
2007-08	734	734	679	632	567	464	3076	2438	126.17
2008-09	731	731	676	629	565	462	3063	2420	126.57

* - Same as new entrants because of no repeaters.

Table 5.23(A_1)
Grade-wise Predicted Enrolment at the Primary Level
ANDHRA PRADESH : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	New Entrants (@142.0%)	Enrolment						ASP 6-10	GER (%)
		I*	II	III	IV	V	Total I-V		
1990-91	692	692	598	543	451	329	2613	2427	107.66
1991-92	698	698	607	532	449	340	2626	2441	107.58
1992-93	703	703	611	540	440	339	2633	2456	107.21
1993-94	709	709	616	544	446	332	2647	2470	107.17
1994-95	714	714	621	548	450	337	2670	2484	107.49
1995-96	720	720	626	553	453	340	2692	2499	107.72
1996-97	711	711	630	557	457	342	2697	2483	108.62
1997-98	701	701	622	561	461	345	2690	2468	109.00
1998-99	692	692	614	554	464	348	2672	2453	108.93
1999-2000	683	683	606	547	458	351	2645	2438	108.49
2000-01	674	674	598	540	452	346	2610	2423	107.72
2001-02	671	671	591	533	446	341	2582	2405	107.36
2002-03	668	668	588	526	440	337	2559	2387	107.21
2003-04	665	665	585	523	435	333	2541	2370	107.22
2004-05	662	662	582	521	433	328	2526	2353	107.35
2005-06	659	659	580	519	431	326	2515	2335	107.71
2006-07	656	656	578	516	429	325	2504	2318	108.02
2007-08	654	654	575	514	427	324	2494	2301	108.39
2008-09	651	651	573	512	425	322	2483	2284	108.71

* - Same as new entrants because of no repeaters.

Table 5.23(A_2)
Grade-wise Predicted Enrolment at the Primary Level
KARNATAKA : 1991 to 2001
Constant Transition and Improved Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@159.4%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	787	787	696	645	562	434	3124	-	2572	121.46
1991-92	786	786	725	645	576	458	3190	-	2589	123.21
1992-93	805	805	724	672	576	470	3247	-	2606	124.60
1993-94	814	814	741	671	600	470	3296*	-	2624	125.61
1994-95	823	823	750	687	599	489	3348	2.48	2641	126.77
1995-96	832	832	758	694	614	489	3387	3.67	2659	127.38
1996-97	826	826	766	702	621	500	3415	4.53	2641	129.31
1997-98	820	820	761	710	628	506	3425	4.84	2622	130.63
1998-99	814	814	755	705	635	511	3420	4.68	2604	131.34
1999-2000	808	808	750	699	630	517	3404	4.19	2586	131.63
2000-01	802	802	744	694	625	513	3378	3.40	2568	131.54

* - Compared to which official enrolment (provisional) is 3267 thousand.

** - Same as new entrants because of no repeaters.

Table 5.23(A_2)
Grade-wise Predicted Enrolment at the Primary Level
KARNATAKA : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@148.1%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	692	692	598	543	451	329	2613	-	2427	107.66
1991-92	701	701	613	536	454	347	2651	-	2441	108.60
1992-93	709	709	628	553	453	356	2699	-	2456	109.89
1993-94	718	718	642	570	474	362	2766*	-	2470	111.98
1994-95	726	726	657	587	494	385	2849	-	2484	114.69
1995-96	735	735	672	605	514	409	2935	2.87	2499	117.45
1996-97	729	729	688	623	536	433	3009	5.47	2483	121.18
1997-98	722	722	689	641	558	459	3069	7.57	2468	124.35
1998-99	716	716	690	646	580	486	3118	9.29	2453	127.11
1999-2000	709	709	691	651	591	514	3156	10.62	2438	129.45
2000-01	703	703	692	656	602	532	3185	11.64	2423	131.45

* - Compared to which official enrolment (provisional) is 2853 thousand.

** - Same as new entrants because of no repeaters.

Table 5.24(A_1)
Grade-wise Predicted Enrolment at the Primary Level
KERALA : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(*In Thousands*)

Year	*New Entrants (@99.6%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	310	310	320	322	332	343	1627	1520	107.05
1991-92	305	306	322	315	320	334	1597	1512	105.63
1992-93	301	302	318	317	313	322	1572	1504	104.52
1993-94	297	297	314	313	314	315	1553	1496	103.80
1994-95	293	293	309	309	310	315	1536	1488	103.21
1995-96	289	289	305	305	307	312	1518	1480	102.54
1996-97	290	290	301	300	303	308	1502	1477	101.67
1997-98	291	292	301	296	298	304	1491	1474	101.13
1998-99	292	293	303	297	294	300	1487	1471	101.07
1999-2000	294	294	304	298	294	295	1485	1468	101.15
2000-01	295	295	305	299	295	295	1489	1465	101.63
2001-02	297	297	307	300	297	296	1497	1473	101.62
2002-03	299	299	308	302	298	297	1504	1481	101.53
2003-04	301	301	310	304	299	299	1513	1490	101.56
2004-05	303	303	312	306	301	300	1522	1498	101.60
2005-06	305	305	315	308	303	302	1533	1506	101.77
2006-07	307	307	317	310	305	304	1543	1515	101.87
2007-08	309	309	319	312	307	306	1553	1523	101.96
2008-09	311	311	321	314	309	308	1563	1532	102.06

* - Same as new entrants because of no repeaters.

Table 5.24(A_1)

Grade-wise Predicted Enrolment at the Primary Level

KERALA : 1991 to 2009

Transition and Entry Rates : Constant

GIRLS

(In Thousands)

Year	*New Entrants (@98.4%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	298	298	303	304	312	324	1541	1479	104.19
1991-92	294	294	306	297	298	312	1507	1472	102.38
1992-93	290	291	302	299	290	299	1481	1466	101.02
1993-94	287	287	399	296	292	290	1564	1461	107.05
1994-95	283	283	295	293	289	291	1451	1455	99.73
1995-96	280	280	291	289	286	289	1435	1449	99.03
1996-97	281	281	288	285	282	286	1422	1446	98.34
1997-98	281	282	288	282	279	282	1413	1443	97.92
1998-99	282	283	289	282	275	279	1408	1440	97.78
1999-2000	284	284	290	283	275	275	1407	1436	97.98
2000-01	285	285	292	284	276	275	1412	1435	98.40
2001-02	287	287	293	285	277	276	1418	1443	98.27
2002-03	288	289	294	286	278	277	1424	1451	98.14
2003-04	290	291	296	288	279	278	1432	1459	98.15
2004-05	292	293	298	290	281	279	1441	1467	98.23
2005-06	294	295	300	292	283	280	1450	1475	98.31
2006-07	296	297	302	294	285	282	1460	1483	98.45
2007-08	298	299	304	296	287	283	1469	1491	98.52
2008-09	300	301	306	298	288	286	1479	1499	98.67

* - Same as new entrants because of no repeaters.

Table 5.24(A_2)
Grade-wise Predicted Enrolment at the Primary Level
KERALA : 1991 to 2001
Constant Transition and Improved Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@137.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	310	310	320	322	332	343	1627	-	1520	107.05
1991-92	317	317	322	315	320	333	1607	-	1512	106.29
1992-93	324	324	329	317	313	322	1605	-	1504	106.72
1993-94	330	331	336	323	314	315	1619*	-	1496	108.21
1994-95	337	337	342	330	320	315	1644	6.06	1488	110.47
1995-96	343	343	349	337	327	321	1677	8.19	1480	113.28
1996-97	355	356	356	344	333	327	1716	10.71	1477	116.16
1997-98	367	368	368	350	340	334	1760	13.55	1474	119.38
1998-99	380	381	381	362	347	341	1812	16.90	1471	123.16
1999-2000	393	393	394	375	358	347	1867	20.45	1468	127.17
2000-01	406	406	407	387	370	358	1928	24.39	1465	131.60

* - Compared to which official enrolment (provisional) is 1550 thousand.

** - Same as new entrants because of no repeaters.

Table 5.24(A_2)
Grade-wise Predicted Enrolment at the Primary Level
KERALA : 1991 to 2001
Constant Transition and Improved Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@141.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	298	298	303	304	312	324	1541	-	1479	104.19
1991-92	307	307	306	297	298	312	1520	-	1472	103.26
1992-93	315	316	315	299	290	298	1518	-	1466	103.55
1993-94	324	324	324	307	292	290	1537*	-	1461	105.20
1994-95	332	333	332	316	299	291	1571	6.94	1455	107.97
1995-96	340	340	341	324	308	298	1611	9.67	1449	111.18
1996-97	353	354	349	333	316	306	1658	12.87	1446	114.66
1997-98	367	367	362	341	324	315	1709	16.34	1443	118.43
1998-99	380	381	376	353	332	323	1765	20.15	1440	122.57
1999-2000	394	394	390	367	344	331	1826	24.30	1436	127.16
2000-01	408	408	404	380	357	342	1891	28.73	1435	131.78

* - Compared to which official enrolment (provisional) is 1469 thousand.

** - Same as new entrants because of no repeaters.

Table 5.25(A_1)
Grade-wise Predicted Enrolment at the Primary Level
MADHYA PRADESH : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@123.3%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	1141	1141	1002	1050	879	727	4799	4263	112.57
1991-92	1145	1145	1053	946	1044	723	4911	4338	113.21
1992-93	1150	1150	1057	994	941	859	5001	4413	113.32
1993-94	1154	1154	1061	998	989	774	4976	4490	110.82
1994-95	1159	1159	1065	1002	993	813	5032	4568	110.16
1995-96	1163	1163	1069	1005	997	816	5050	4647	108.67
1996-97	1163	1163	1074	1009	1000	819	5065	4654	108.83
1997-98	1162	1162	1073	1013	1004	823	5075	4661	108.88
1998-99	1161	1161	1073	1013	1008	826	5081	4668	108.85
1999-2000	1161	1161	1072	1012	1008	829	5082	4675	108.71
2000-01	1160	1160	1072	1012	1007	829	5080	4683	108.48
2001-02	1161	1161	1071	1011	1007	828	5078	4685	108.39
2002-03	1162	1162	1071	1011	1006	828	5078	4687	108.34
2003-04	1162	1162	1072	1011	1006	827	5078	4690	108.27
2004-05	1163	1163	1073	1012	1006	827	5081	4692	108.29
2005-06	1164	1164	1074	1013	1007	827	5085	4695	108.31
2006-07	1165	1165	1074	1014	1008	828	5089	4697	108.35
2007-08	1166	1166	1075	1014	1009	828	5092	4699	108.36
2008-09	1167	1167	1076	1015	1009	829	5096	4702	108.38

* - Same as new entrants because of no repeaters.

Table 5.25(A_1)
Grade-wise Predicted Enrolment at the Primary Level
MADHYA PRADESH : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	*New Entrants (@102.7%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	876	876	750	743	564	439	3372	3936	85.67
1991-92	881	881	807	727	666	505	3586	4006	89.52
1992-93	886	886	812	783	651	596	3728	4078	91.42
1993-94	891	891	816	788	701	583	3779	4152	91.02
1994-95	896	896	821	792	705	628	3842	4227	90.89
1995-96	901	901	825	796	709	632	3863	4303	89.77
1996-97	901	901	830	800	713	635	3879	4314	89.92
1997-98	902	902	830	805	717	639	3893	4325	90.01
1998-99	902	902	830	805	721	642	3900	4337	89.92
1999-2000	902	902	830	806	721	646	3905	4348	89.81
2000-01	902	902	831	806	721	646	3906	4360	89.59
2001-02	904	904	831	806	721	646	3908	4367	89.49
2002-03	905	905	832	806	721	646	3910	4373	89.41
2003-04	906	906	833	807	722	646	3914	4380	89.36
2004-05	908	908	835	808	723	647	3921	4387	89.38
2005-06	909	909	836	810	724	647	3926	4394	89.35
2006-07	910	910	837	811	725	648	3931	4400	89.34
2007-08	912	912	838	812	726	648	3936	4407	89.31
2008-09	913	913	840	813	727	650	3943	4414	89.33

* - Same as new entrants because of no repeaters.

Table 5.25(A_2)
Grade-wise Predicted Enrolment at the Primary Level
MADHYA PRADESH : 1991 to 2001
Constant Transition and Improved Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@155.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	1141	1141	1002	1050	879	727	4799	-	4263	112.57
1991-92	1175	1175	1053	946	1044	723	4941	-	4338	113.90
1992-93	1209	1209	1084	994	941	859	5087	-	4413	115.27
1993-94	1243	1243	1116	1023	989	774	5145*	-	4490	114.59
1994-95	1278	1278	1147	1053	1018	813	5309	1.28	4568	116.22
1995-96	1312	1312	1179	1083	1048	837	5459	4.14	4647	117.47
1996-97	1342	1342	1212	1113	1077	861	5605	6.92	4654	120.43
1997-98	1372	1372	1239	1144	1108	886	5749	9.67	4661	123.34
1998-99	1400	1400	1266	1170	1138	911	5885	12.27	4668	126.07
1999-2000	1429	1429	1292	1195	1163	937	6016	14.77	4675	128.68
2000-01	1458	1458	1319	1220	1189	956	6142	17.17	4683	131.16

* - Compared to which official enrolment (provisional) is 5242 thousand.

** - Same as new entrants because of no repeaters.

Table 5.25(A_2)
Grade-wise Predicted Enrolment at the Primary Level
MADHYA PRADESH : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@155.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	876	876	750	743	564	439	3372	-	3936	85.67
1991-92	926	926	812	726	668	505	3637	-	4006	90.79
1992-93	977	977	863	785	654	599	3878	-	4078	95.10
1993-94	1027	1027	915	832	709	587	4070*	-	4152	98.03
1994-95	1079	1079	968	881	755	637	4320	13.74	4227	102.20
1995-96	1131	1131	1023	930	801	678	4563	20.14	4303	106.04
1996-97	1177	1177	1078	980	849	720	4804	26.49	4314	111.36
1997-98	1222	1222	1128	1031	898	763	5042	32.75	4325	116.58
1998-99	1269	1269	1179	1076	947	807	5278	38.97	4337	121.70
1999-2000	1315	1315	1231	1122	992	852	5512	45.13	4348	126.77
2000-01	1362	1362	1282	1169	1038	893	5744	51.24	4360	131.74

* - Compared to which official enrolment (provisional) is 3798 thousand.

** - Same as new entrants because of no repeaters.

Table 5.26(A_1)
Grade-wise Predicted Enrolment at the Primary Level
MAHARASHTRA : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	New Entrants (@140.2%)	Enrolment					Total I-V	ASP 6-10	GER (%)
		I*	II	III	IV	V			
1990-91	1338	1338	1169	1143	956	918	5524	4521	122.19
1991-92	1347	1347	1174	1163	989	943	5616	4590	122.35
1992-93	1357	1357	1182	1169	1007	976	5691	4661	122.10
1993-94	1367	1367	1191	1177	1011	994	5740	4733	121.28
1994-95	1377	1377	1199	1196	1019	999	5790	4806	120.47
1995-96	1387	1387	1208	1194	1026	1006	5821	4880	119.28
1996-97	1281	1281	1216	1203	1034	1013	5747	4911	117.02
1997-98	1316	1316	1123	1211	1041	1021	5712	4943	115.56
1998-99	1352	1352	1154	1119	1049	1028	5702	4975	114.61
1999-2000	1389	1389	1186	1150	969	1035	5729	5007	114.42
2000-01	1428	1428	1219	1181	995	956	5779	5039	114.69
2001-02	1444	1444	1252	1214	1023	982	5915	5085	116.32
2002-03	1461	1461	1267	1247	1051	1010	6036	5132	117.61
2003-04	1478	1478	1281	1261	1080	1037	6137	5179	118.50
2004-05	1495	1495	1295	1276	1092	1066	6224	5227	119.07
2005-06	1512	1512	1311	1291	1105	1078	6297	5275	119.37
2006-07	1529	1529	1326	1305	1118	1091	6369	5323	119.65
2007-08	1547	1547	1341	1321	1131	1103	6443	5372	119.94
2008-09	1565	1565	1356	1336	1144	1116	6517	5421	120.22

* - Same as new entrants because of no repeaters.

Table 5.26(A.)
Gradewise Predicted Enrolment at the Primary Level
MAHARASHTRA : 1990 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	New Entrants (@ 111.2%)	Enrolment					Total I-V	ASP 6-10	GER (%)
		I*	II	III	IV	V			
1990-91	1183	1183	1030	987	792	703	4695	4236	110.79
1991-92	1193	1193	1077	1006	832	713	4799	4281	111.78
1992-93	1209	1209	1068	1011	847	773	4882	4308	111.77
1993-94	1217	1217	1078	1023	873	784	4975	4477	111.22
1994-95	1229	1229	1068	1031	861	789	4978	4503	110.55
1995-96	1241	1241	1079	1062	870	797	5049	4573	109.87
1996-97	1247	1247	1090	1052	878	805	5072	4604	110.17
1997-98	1253	1253	1097	1062	887	813	5112	4636	110.27
1998-99	1260	1260	1101	1068	896	821	5146	4666	110.29
1999-2000	1266	1266	1106	1073	900	829	5174	4698	110.13
2000-01	1272	1272	1112	1079	905	833	5201	4729	109.98
2001-02	1287	1287	1118	1084	909	838	5236	4772	109.72
2002-03	1302	1302	1130	1090	914	842	5278	4814	109.64
2003-04	1317	1317	1143	1102	919	846	5327	4859	109.65
2004-05	1332	1332	1156	1114	929	851	5381	4911	109.79
2005-06	1347	1347	1169	1127	940	860	5443	4947	110.02
2006-07	1362	1362	1182	1140	950	873	5504	4989	110.22
2007-08	1377	1377	1196	1153	961	880	5567	5034	110.79
2008-09	1393	1393	1209	1166	972	890	5630	5079	110.87

* - Same as new entrants because of no repeaters.

Table 5.26(A₁)
Grade-wise Predicted Enrolment at the Primary Level
MAHARASHTRA : 1991 to 2001
Improved Transition and Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@ 148.2%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-11*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	1338	1338	1169	1145	956	918	5526	–	4521	122.18
1991-92	1353	1353	1187	1162	996	946	5644	–	4590	122.96
1992-93	1373	1373	1215	1182	1021	983	5774	–	4661	123.88
1993-94	1390	1390	1244	1210	1066	1006	5906*	–	4733	124.77
1994-95	1408	1408	1276	1239	1076	1031	6028	2.87	4806	125.43
1995-96	1426	1426	1306	1269	1135	1063	6172	5.41	4880	126.48
1996-97	1323	1323	1335	1299	1166	1085	6108	5.40	4955	126.21
1997-98	1369	1369	1253	1326	1178	1129	6278	6.90	4947	126.60
1998-99	1414	1414	1308	1266	1214	1163	6367	8.42	4873	127.58
1999-2000	1461	1461	1362	1303	1147	1196	6476	10.76	5007	128.30
2000-01	1509	1509	1424	1356	1205	1132	6629	13.26	5039	131.33

* : Compared to which official enrolment (provisional) is 5856 thousand.

** : Same as new entrants because of no repeaters.

Table 5.26(A_2)
Grade-wise Predicted Enrolment at the Primary Level
MAHARASHTRA : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@146.3%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	1181	1181	1030	987	792	703	4693	-	4236	110.79
1991-92	1204	1204	1049	1004	841	733	4831	-	4301	112.32
1992-93	1228	1228	1081	1022	863	778	4972	-	4368	113.83
1993-94	1252	1252	1114	1054	887	799	5106*	-	4435	115.13
1994-95	1277	1277	1148	1086	923	821	5255	2.98	4503	116.70
1995-96	1301	1301	1183	1119	960	854	5417	6.15	4573	118.46
1996-97	1320	1320	1218	1153	999	889	5579	9.33	4604	121.18
1997-98	1339	1339	1249	1188	1038	924	5738	12.44	4634	123.82
1998-99	1358	1358	1280	1218	1079	962	5897	15.56	4666	126.38
1999-2000	1378	1378	1311	1248	1116	999	6052	18.60	4698	128.82
2000-01	1397	1397	1343	1278	1154	1034	6206	21.61	4729	131.23

* - Compared to which official enrolment (provisional) is 5103 thousand.

** - Same as new entrants because of no repeaters.

Table 5.27(A$_1$)
Grade-wise Predicted Enrolment at the Primary Level
ORISSA : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	New Entrants (@168.6%)	Enrolment					Total I-V	ASP 6-10	GER (%)
		I	II	III	IV	V			
1990-91	657	684	557	458	367	310	2376	1836	129.41+
1991-92	666	694	585	492	394	332	2497	1872	133.39
1992-93	676	704	595	517	423	357	2596	1909	135.99
1993-94	686	714	604	527	445	383	2673*	1946	137.36
1994-95	696	725	613	535	454	403	2730	1984	137.60
1995-96	706	735	622	543	461	412	2773	2023	137.07
1996-97	709	739	630	550	468	418	2805	2041	137.43
1997-98	712	743	634	558	474	424	2833	2059	137.59
1998-99	716	746	637	562	481	430	2856	2077	137.51
1999-2000	719	750	640	565	484	436	2875	2096	137.17
2000-01	723	754	643	567	488	439	2891	2114	136.75
2001-02	756	757	647	570	489	442	2905	2123	136.83
2002-03	759	759	649	573	491	444	2916	2133	136.71
2003-04	762	762	652	575	494	446	2929	2142	136.74
2004-05	765	765	654	577	496	448	2940	2151	136.68
2005-06	768	768	656	579	498	450	2951	2161	136.56
2006-07	771	771	659	582	499	452	2963	2170	136.54
2007-08	774	774	661	584	501	453	2973	2179	136.44
2008-09	777	777	664	586	503	455	2985	2189	136.36

* - Compared to which official enrolment (provisional) is 2267 thousand.

+ - Since enrolment ratio is already above 131.20 per cent, other alternatives are not tried.

Table 5.27(A_1)

Grade-wise Predicted Enrolment at the Primary Level

ORISSA : 1991 to 2009

Transition and Entry Rates : Constant

GIRLS

(In Thousands)

Year	*New Entrants (@120.7%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	439	456	397	325	252	214	1644	1744	94.27
1991-92	446	463	409	355	271	230	1728	1775	97.35
1992-93	454	471	416	367	296	248	1798	1806	99.56
1993-94	461	479	423	373	307	270	1852	1834	100.98
1994-95	469	487	430	380	313	280	1890	1869	101.12
1995-96	477	495	438	386	318	286	1923	1902	101.10
1996-97	479	498	445	393	324	291	1951	1919	101.67
1997-98	481	501	447	399	329	296	1972	1937	101.81
1998-99	483	502	450	402	335	301	1990	1954	101.84
1999-2000	485	504	452	403	337	306	2002	1972	101.52
2000-01	488	507	453	405	339	308	2012	1990	101.11
2001-02	489	509	456	407	340	310	2022	2163	93.48
2002-03	491	511	457	409	342	311	2030	2118	95.85
2003-04	493	513	459	410	344	313	2039	2075	98.27
2004-05	495	515	461	412	345	314	2047	2032	100.74
2005-06	497	517	463	414	347	315	2056	2036	100.98
2006-07	499	519	464	415	348	317	2063	2045	100.88
2007-08	501	520	466	417	350	318	2071	2054	100.83
2008-09	503	522	468	418	351	319	2078	2063	100.73

Table 5.27(A_2)
Grade-wise Predicted Enrolment at the Primary Level
ORISSA : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@135.7%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*				
1990-91	439	456	397	325	252	214	1644	-	1744	94.27
1991-92	452	468	414	359	275	231	1747	-	1775	98.42
1992-93	465	481	430	379	308	253	1851	-	1806	102.49
1993-94	479	494	448	399	331	284	1956*	-	1834	106.65
1994-95	493	508	466	420	354	306	2054	30.41	1869	109.90
1995-96	507	521	484	442	378	328	2153	36.70	1902	113.20
1996-97	515	529	503	464	403	351	2250	42.86	1919	117.25
1997-98	523	537	517	488	430	376	2348	49.08	1937	121.22
1998-99	531	544	530	507	458	402	2441	54.98	1954	124.92
1999-2000	540	552	544	526	483	430	2535	60.95	1972	128.55
2000-01	548	559	557	545	507	454	2622	66.48	1990	131.76

* Compared to which official enrolment is 1575 thousand.

Table 5.28(A_1)
Grade-wise Predicted Enrolment at the Primary Level
PUNJAB : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@92.4%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	230	238	247	235	214	181	1115	1201	92.84
1991-92	227	236	240	234	208	188	1106	1200	92.17
1992-93	225	233	237	228	207	183	1088	1199	90.74
1993-94	222	230	234	225	202	182	1073	1198	89.57
1994-95	219	227	231	222	199	178	1057	1197	88.30
1995-96	217	225	229	220	197	175	1046	1196	87.46
1996-97	215	223	226	217	194	173	1033	1184	87.25
1997-98	213	221	224	215	192	171	1023	1172	87.29
1998-99	212	219	222	213	190	169	1013	1160	87.33
1999-2000	210	217	220	211	188	167	1003	1148	87.37
2000-01	208	216	219	209	187	165	996	1137	87.60
2001-02	210	217	217	208	185	164	991	1141	86.85
2002-03	213	220	219	206	183	163	991	1146	86.47
2003-04	215	222	221	208	182	161	994	1150	86.43
2004-05	217	225	223	210	183	160	1001	1155	86.67
2005-06	219	227	226	212	185	161	1011	1159	87.23
2006-07	221	229	228	214	187	163	1021	1164	87.71
2007-08	224	232	230	216	189	165	1032	1169	88.28
2008-09	226	234	233	219	191	166	1043	1174	88.84

Table 5.28(A_1)
Grade-wise Predicted Enrolment at the Primary Level
PUNJAB : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	*New Entrants (@88.1%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	201	208	211	199	182	154	954	1083	88.09
1991-92	199	205	208	199	177	162	951	1085	87.65
1992-93	196	203	206	197	176	157	939	1087	86.38
1993-94	194	200	203	195	175	157	930	1090	85.32
1994-95	192	198	201	192	173	156	920	1092	84.25
1995-96	189	195	198	190	170	154	907	1094	82.91
1996-97	188	194	196	188	168	152	898	1085	82.76
1997-98	187	193	195	185	166	150	889	1075	82.70
1998-99	186	192	193	184	164	148	881	1066	82.65
1999-2000	185	191	192	183	163	147	876	1057	82.88
2000-01	184	189	191	182	162	145	869	1048	82.92
2001-02	186	191	190	181	161	145	868	1053	82.43
2002-03	188	194	192	179	160	144	869	1058	82.14
2003-04	190	196	194	181	159	143	873	1064	82.05
2004-05	192	198	196	183	160	142	879	1069	82.23
2005-06	194	200	198	185	162	143	888	1074	82.68
2006-07	196	202	200	187	164	145	898	1080	83.15
2007-08	198	204	202	189	166	146	907	1085	83.59
2008-09	200	206	204	191	167	148	916	1091	83.96

Table 5.28(A_2)
Grade-wise Predicted Enrolment at the Primary Level
PUNJAB : 1991 to 2001
Improved Transition and Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@139.2%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*				
1990-91	1343	1342	991	775	658	607	4373	-	3743	116.86
1990-91	230	238	247	235	214	181	1115	-	1201	92.84
1991-92	239	247	240	235	210	189	1121	-	1200	93.42
1992-93	248	256	249	231	212	186	1134	-	1199	94.58
1993-94	256	264	258	239	210	189	1160*	-	1198	96.83
1994-95	264	273	267	249	219	188	1196	7.75	1197	99.92
1995-96	272	281	276	259	230	196	1242	11.89	1196	103.85
1996-97	280	289	284	269	241	207	1290	16.22	1184	108.95
1997-98	289	298	293	278	252	218	1339	20.63	1172	114.25
1998-99	297	307	303	289	264	229	1392	25.41	1160	120.00
1999-2000	305	314	312	300	277	241	1444	30.09	1148	125.78
2000-01	313	323	321	310	289	253	1496	34.77	1137	131.57

* - Compared to which the official enrolment (provisional) is 1110 thousand.

Table 5.28(A_2)
Grade-wise Predicted Enrolment at the Primary Level
PUNJAB : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	New Entrants (@144.0%)	Enrolment					Total I-V	Per Cent Increase	ASP 6-10	GER (%)
		I	II	III	IV	V				
1990-91	201	208	211	199	182	154	954	-	1083	88.09
1991-92	215	218	209	200	178	163	968	-	1085	89.22
1992-93	221	228	218	200	180	160	986	-	1087	90.71
1993-94	231	237	229	209	181	161	1017*	-	1090	93.30
1994-95	240	247	238	220	191	163	1059	10.66	1092	96.98
1995-96	249	256	248	231	203	173	1111	16.09	1094	101.55
1996-97	260	266	257	241	215	184	1163	21.53	1085	107.19
1997-98	270	276	268	252	227	195	1218	27.27	1075	113.30
1998-99	280	286	279	263	238	206	1272	32.92	1066	119.32
1999-2000	290	296	289	275	252	217	1329	38.87	1057	125.73
2000-01	306	306	300	287	265	229	1387	44.93	1048	132.35

* - Compared to which official enrolment (provisional) is 957 thousand.

Table 5.29(A_1)
Grade-wise Predicted Enrolment at the Primary Level
RAJASTHAN : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@162.9%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	1033	1066	708	496	477	425	3172	2985	106.26
1991-92	1033	1065	693	485	485	431	3159	3018	104.67
1992-93	1034	1066	693	474	474	438	3145	3051	103.08
1993-94	1035	1067	693	474	464	429	3127	3084	101.39
1994-95	1035	1068	693	474	463	419	3117	3117	100.00
1995-96	1036	1068	694	474	463	418	3117	3151	98.92
1996-97	1038	1070	694	474	463	419	3120	3158	98.80
1997-98	1040	1072	695	475	464	419	3125	3164	98.77
1998-99	1042	1074	697	475	464	419	3129	3171	98.68
1999-2000	1044	1076	698	476	465	420	3135	3177	98.68
2000-01	1046	1078	699	477	466	420	3140	3184	98.62
2001-02	1047	1079	701	478	466	421	3145	3189	98.62
2002-03	1047	1080	701	479	467	422	3149	3192	98.65
2003-04	1048	1080	701	479	468	423	3151	3196	98.59
2004-05	1048	1081	702	479	468	423	3153	3200	98.53
2005-06	1049	1081	702	480	469	423	3155	3204	98.47
2006-07	1050	1082	702	480	469	424	3157	3208	98.41
2007-08	1050	1096	703	480	469	424	3172	3212	98.75
2008-09	1051	1110	704	480	469	424	3187	3216	99.10

Table 5.29(A_1)

Grade-wise Predicted Enrolment at the Primary Level

RAJASTHAN : 1991 to 2009

Transition and Entry Rates : Constant

GIRLS

(In Thousands)

Year	*New Entrants (@86.5%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	507	519	346	211	183	155	1414	2748	51.46
1991-92	507	520	345	210	188	162	1425	2781	51.24
1992-93	508	521	345	209	187	167	1429	2814	50.78
1993-94	509	521	345	210	186	166	1428	2848	50.14
1994-95	509	522	346	210	186	166	1430	2882	49.62
1995-96	510	522	346	210	186	166	1430	2916	49.04
1996-97	511	524	346	210	187	166	1433	2924	49.01
1997-98	512	525	347	211	187	166	1436	2931	48.99
1998-99	513	526	348	211	187	166	1438	2939	48.93
1999-2000	514	527	349	212	188	166	1442	2946	48.95
2000-01	516	528	350	212	188	167	1445	2954	48.92
2001-02	516	529	350	212	188	167	1446	2959	48.87
2002-03	516	529	351	213	189	168	1450	2963	48.94
2003-04	517	530	351	213	189	168	1451	2968	48.89
2004-05	517	530	351	213	189	168	1451	2973	48.81
2005-06	518	531	351	213	190	169	1454	2978	48.82
2006-07	518	531	352	214	190	169	1456	2983	48.81
2007-08	518	531	351	214	190	169	1455	2988	48.69
2008-09	519	532	351	214	190	169	1456	2993	48.65

Table 5.29(A_2)
Grade-wise Predicted Enrolment at the Primary Level
RAJASTHAN : 1991 to 2001
Improved Transition and Entry Rates
BOYS

(In Thousands)

Year	New Entrants (@138.0%)	Enrolment					Total I-V	Per Cent Increase	ASP 6-10	GER (%)
		I	II	III	IV	V				
1990-91	1033	1066	708	496	477	425	3172	-	2985	106.26
1991-92	1017	1050	729	504	483	432	3198	-	3018	105.96
1992-93	1002	1034	754	539	490	439	3256	-	3051	106.72
1993-94	987	1018	778	578	522	445	3341*	-	3084	108.33
1994-95	972	1003	802	620	559	474	3458	-	3117	110.94
1995-96	956	987	824	661	597	509	3578	-	3151	113.55
1996-97	942	973	845	703	634	544	3699	0.43	3158	117.13
1997-98	929	958	866	745	673	580	3822	3.77	3164	120.80
1998-99	914	944	886	788	711	616	3945	7.11	3171	124.41
1999-2000	900	929	905	831	750	653	4068	10.45	3177	128.05
2000-01	886	914	923	874	790	690	4191	13.79	3184	131.63

* - Compared to which official enrolment (provisional) is 3683 thousand.

Table 5.29(A_2)

Grade-wise Predicted Enrolment at the Primary Level

RAJASTHAN : 1991 to 2001

Improved Transition and Entry Rates

GIRLS

(In Thousands)

Year	*New Entrants (@158.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*				
1990-91	507	519	346	211	183	155	1414	-	2748	51.46
1991-92	549	562	362	223	189	163	1499	-	2781	53.90
1992-93	592	605	409	245	200	169	1628	-	2814	57.85
1993-94	635	649	461	292	221	179	1802*	-	2848	63.27
1994-95	678	692	516	345	265	199	2017	13.63	2882	69.99
1995-96	720	735	574	405	315	238	2267	27.72	2916	77.74
1996-97	764	780	634	471	372	285	2542	43.21	2924	86.94
1997-98	808	825	699	543	435	337	2839	59.94	2931	96.86
1998-99	853	870	767	523	506	395	3061	72.45	2939	104.15
1999-2000	897	915	838	711	584	460	3508	97.63	2946	119.08
2000-01	942	960	912	807	670	533	3882	118.70	2954	131.42

* - Compared to which official enrolment is 1775 thousand.

Table 5.30(A_1)
Grade-wise Predicted Enrolment at the Primary Level
TAMIL NADU : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@156.3%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	975	986	866	784	774	772	4182	3024	138.29
1991-92	938	949	870	795	776	768	4158	2967	140.14
1992-93	903	913	838	799	786	769	4105	2911	141.02
1993-94	869	879	806	770	790	778	4023*	2857	140.81
1994-95	836	846	776	741	764	782	3909	2803	139.46
1995-96	804	814	747	713	735	759	3768	2751	136.97
1996-97	799	808	718	686	708	731	3651	2701	135.17
1997-98	794	803	713	660	681	704	3561	2652	134.28
1998-99	789	798	709	655	655	677	3494	2604	134.18
1999-2000	784	793	704	651	649	652	3449	2557	134.88
2000-01	779	788	699	647	645	644	3423	2511	136.32
2001-02	783	792	695	643	640	639	3409	2513	135.65
2002-03	788	797	699	639	636	635	3406	2516	135.37
2003-04	792	801	702	642	632	631	3408	2518	135.35
2004-05	796	805	706	646	635	627	3419	2521	135.62
2005-06	801	810	710	649	638	629	3436	2524	136.13
2006-07	805	814	714	652	642	633	3455	2526	136.78
2007-08	810	819	718	656	645	636	3474	2529	137.37
2008-09	814	823	722	659	649	640	3493	2532	137.95

* - Compared to which official enrolment (provisional) is 4230 thousand.

Table 5.30(A_1)
Grade-wise Predicted Enrolment at the Primary Level
TAMIL NADU : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	New Entrants (@143.8%)	Enrolment I	Enrolment II	Enrolment III	Enrolment IV	Enrolment V	Total I-V	ASP 6-10	GER (%)
1990-91	850	858	749	677	666	632	3582	2872	124.72
1991-92	818	826	757	687	668	642	3580	2818	127.04
1992-93	788	796	730	695	678	645	3544	2764	128.22
1993-94	759	766	703	670	686	654	3479	2712	128.28
1994-95	730	738	677	645	663	661	3384	2660	127.22
1995-96	703	710	652	621	639	642	3264	2610	125.06
1996-97	699	705	627	598	616	618	3164	2562	123.50
1997-98	693	701	623	576	593	595	3088	2516	122.73
1998-99	689	696	619	571	571	573	3030	2470	122.67
1999-2000	684	691	614	567	565	552	2989	2425	123.26
2000-01	680	686	610	564	561	546	2967	2381	124.61
2001-02	683	690	606	560	557	542	2955	2383	124.00
2002-03	687	693	609	556	553	538	2949	2384	123.70
2003-04	690	697	612	559	550	534	2952	2386	123.72
2004-05	694	700	615	561	552	530	2958	2388	123.87
2005-06	697	704	618	564	555	532	2973	2390	124.39
2006-07	700	707	621	567	557	535	2987	2392	124.87
2007-08	704	711	625	570	560	537	3003	2394	125.44
2008-09	707	714	628	573	563	540	3018	2396	125.96

Table 5.30(A_2)

Grade-wise Predicted Enrolment at the Primary Level

TAMIL NADU : 1991 to 2001

Constant Transition and Improved Entry Rates

GIRLS

(In Thousands)

Year	*New Entrants (@154.0%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	850	858	749	677	666	631	3581	2872	124.69
1991-92	824	832	757	687	668	642	3586	2818	127.25
1992-93	799	807	735	695	678	644	3559	2764	128.76
1993-94	775	783	713	674	686	654	3510*	2712	129.42
1994-95	751	759	691	654	668	661	3433	2660	129.06
1995-96	728	736	670	634	648	645	3333	2610	127.70
1996-97	728	735	650	615	628	626	3254	2562	127.01
1997-98	728	735	649	596	609	607	3196	2516	127.03
1998-99	728	735	649	596	590	589	3159	2470	127.89
1999-2000	728	735	649	595	589	571	3139	2425	129.44
2000-01	728	735	649	595	588	568	3135	2381	131.67

* - Compared to which official enrolment (provisional) is 3791 Thousand.

Table 5.30(A_2)
Grade-wise Predicted Enrolment at the Primary Level
TAMIL NADU : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@146.0%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		I	*II*	*III*	*IV*	*V*			
1990-91	850	858	749	677	666	632	3582	2872	124.72
1991-92	819	827	765	690	664	637	3583	2818	127.15
1992-93	790	797	745	707	672	632	3553	2764	128.55
1993-94	762	767	725	691	684	634	3501*	2712	129.09
1994-95	735	739	706	675	666	641	3427	2660	128.83
1995-96	709	712	687	659	646	621	3325	2610	127.39
1996-97	705	708	668	644	626	597	3243	2562	126.58
1997-98	701	703	670	628	608	576	3185	2516	126.59
1998-99	697	699	673	633	589	555	3149	2470	127.49
1999-2000	694	694	675	637	589	534	3129	2425	129.03
2000-01	690	690	677	641	589	530	3127	2381	131.33

* - Compared to which official enrolment (provisional) is 3791 thousand.

Table 5.31(A_1)
Grade-wise Predicted Enrolment at the Primary Level
UTTAR PRADESH : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@103.2%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	1969	1969	1696	1697	1456	1220	8038	9124	88.10
1991-92	1987	1987	1741	1687	1494	1253	8162	9233	88.40
1992-93	2012	2012	1757	1732	1489	1286	8276	9345	88.56
1993-94	2025	2025	1779	1748	1526	1282	8360	9457	88.40
1994-95	2044	2044	1790	1770	1541	1314	8459	9571	88.38
1995-96	2063	2063	1807	1781	1560	1327	8538	9686	88.15
1996-97	2071	2071	1824	1798	1571	1344	8608	9748	88.31
1997-98	2079	2079	1831	1815	1585	1353	8663	9809	88.32
1998-99	2087	2087	1838	1822	1600	1365	8712	9871	88.26
1999-2000	2095	2095	1845	1829	1607	1378	8754	9934	88.12
2000-01	2103	2103	1852	1836	1613	1384	8788	9997	87.91
2001-02	2110	2110	1859	1843	1619	1389	8820	10036	87.88
2002-03	2116	2116	1865	1850	1625	1394	8850	10076	87.83
2003-04	2123	2123	1871	1856	1631	1400	8881	10115	87.80
2004-05	2130	2130	1077	1862	1636	1405	8110	10155	79.86
2005-06	2136	2136	1883	1867	1642	1410	8938	10195	87.67
2006-07	2110	2110	1888	1873	1647	1414	8932	10235	87.27
2007-08	2116	2116	1865	1879	1652	1418	8930	10275	86.91
2008-09	2123	2123	1871	1856	1657	1423	8930	10315	86.57

* - Same as new entrants because of no repeaters.

Table 5.31(A_1)
Grade-wise Predicted Enrolment at the Primary Level
UTTAR PRADESH : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	*New Entrants (@62.2%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	1053	1053	929	895	706	553	4136	8048	51.39
1991-92	1065	1065	952	920	723	559	4219	8163	51.68
1992-93	1077	1077	963	943	743	573	4299	8279	51.93
1993-94	1089	1089	973	954	762	589	4367	8396	52.01
1994-95	1101	1101	984	965	771	604	4425	8515	51.97
1995-96	1114	1114	996	978	780	611	4479	8636	51.86
1996-97	1121	1121	1007	987	789	618	4522	8712	51.91
1997-98	1128	1128	1013	998	797	625	4561	8788	51.90
1998-99	1136	1136	1020	1004	806	632	4598	8865	51.87
1999-2000	1143	1143	1027	1011	812	640	4633	8943	51.81
2000-01	1150	1150	1033	1017	817	643	4660	9021	51.66
2001-02	1155	1155	1040	1024	822	648	4689	9074	51.68
2002-03	1160	1160	1044	1031	828	652	4715	9127	51.66
2003-04	1165	1165	1049	1035	833	657	4739	9180	51.62
2004-05	1170	1170	1054	1040	837	661	4762	9234	51.57
2005-06	1175	1175	1058	1044	840	664	4781	9288	51.48
2006-07	1180	1180	1063	1049	844	667	4803	9342	51.41
2007-08	1186	1186	1067	1053	848	670	4824	9396	51.34
2008-09	1191	1191	1072	1057	851	673	4844	9451	51.25

* - Same as new entrants because of no repeaters.

Table 5.31(A_2)
Grade-wise Predicted Enrolment at the Primary Level
UTTAR PRADESH : 1991 to 2001
Improved Transition and Entry Rates
BOYS

(In Thousands)

Year	New Entrants (@146.0%)	Enrolment I**	II	III	IV	V	Total I-V	Per Cent Increase	ASP 6-10	GER (%)
1990-91	1969	1969	1696	1697	1456	1220	8038	-	9124	88.10
1991-92	2070	2070	1759	1687	1509	1261	8286	-	9233	89.74
1992-93	2179	2179	1868	1750	1519	1316	8632	-	9345	92.37
1993-94	2277	2277	1986	1858	1589	1333	9043*	-	9457	95.62
1994-95	2383	2383	2096	1976	1703	1402	9560	-	9571	99.89
1995-96	2491	2491	2215	2085	1829	1511	10131	2.81	9686	104.59
1996-97	2586	2586	2338	2204	1950	1633	10711	8.70	9748	109.88
1997-98	2682	2682	2451	2326	2081	1753	11293	14.60	9809	115.13
1998-99	2779	2779	2567	2439	2219	1882	11886	20.62	9871	120.41
1999-2000	2877	2877	2685	2554	2350	2019	12485	26.70	9934	125.68
2000-01	2975	2975	2805	2671	2485	2151	13087	32.81	9997	130.91

* - Compared to which official enrolment (provisional) is 9854 thousand.

** - Same as new entrants because of no repeaters.

Table 5.31(A_2)
Grade-wise Predicted Enrolment at the Primary Level
UTTAR PRADESH : 1991 to 2001
Improved Transition and Entry Rates
GIRLS

(In Thousands)

Year	New Entrants (@156.5%)	Enrolment					Total I-V	Per Cent Increase	ASP 6-10	GER (%)
		I*	II	III	IV	V				
1990-91	1053	1053	929	895	706	553	4136	-	8048	51.39
1991-92	1226	1226	959	920	737	568	4410	-	8163	54.02
1992-93	1403	1403	1126	951	773	602	4855	-	8279	58.64
1993-94	1584	1584	1298	1116	813	641	5452*	-	8396	64.94
1994-95	1769	1769	1477	1287	968	685	6186	0.90	8515	72.65
1995-96	1958	1958	1662	1464	1137	825	7046	14.92	8636	81.59
1996-97	2140	2140	1853	1647	1318	984	7942	29.54	8712	91.16
1997-98	2325	2325	2041	1837	1511	1157	8871	44.69	8788	100.94
1998-99	2513	2513	2234	2023	1716	1346	9832	60.37	8865	110.91
1999-2000	2702	2702	2432	2214	1924	1550	10822	76.51	8943	121.01
2000-01	2894	2894	2635	2410	2142	1762	11843	93.17	9021	131.28

* - Compared to which official enrolment is 6131 thousand.

** - Same as new entrants because of no repeaters.

Table 5.32(A_1)
Grade-wise Predicted Enrolment at the Primary Level
WEST BENGAL : 1991 to 2009
Transition and Entry Rates : Constant
BOYS

(In Thousands)

Year	*New Entrants (@163.7%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	1401	1401	961	805	723	767	4657	3985	116.86
1991-92	1392	1392	962	857	774	779	4764	4019	118.54
1992-93	1376	1376	956	858	824	830	4844	4054	119.49
1993-94	1373	1373	945	852	825	884	4879	4090	119.29
1994-95	1364	1364	943	842	819	889	4857	4125	117.75
1995-96	1355	1355	936	841	810	884	4826	4161	115.98
1996-97	1351	1351	930	835	808	874	4798	4148	115.67
1997-98	1347	1347	928	830	803	872	4780	4134	115.63
1998-99	1343	1343	925	828	798	866	4760	4121	115.51
1999-2000	1340	1340	923	825	795	860	4743	4107	115.49
2000-01	1336	1336	920	823	793	858	4730	4094	115.53
2001-02	1331	1331	917	821	791	855	4715	4079	115.59
2002-03	1325	1325	914	818	789	853	4699	4064	115.63
2003-04	1320	1320	910	815	787	851	4683	4045	115.77
2004-05	1315	1315	907	812	783	848	4665	4034	115.64
2005-06	1310	1310	903	809	780	845	4647	4019	115.63
2006-07	1304	1304	900	806	777	842	4629	4004	115.61
2007-08	1299	1299	896	802	774	838	4609	3989	115.54
2008-09	1294	1294	892	799	771	834	4590	3975	115.47

* - Same as new entrants because of no repeaters.

Table 5.32(A_1)
Grade-wise Predicted Enrolment at the Primary Level
WEST BENGAL : 1991 to 2009
Transition and Entry Rates : Constant
GIRLS

(In Thousands)

Year	*New Entrants (@156.0%)*	*Enrolment*					*Total I-V*	*ASP 6-10*	*GER (%)*
		*I**	*II*	*III*	*IV*	*V*			
1990-91	1264	1264	776	677	590	463	3770	3855	97.80
1991-92	1258	1258	821	732	637	506	3954	3876	102.01
1992-93	1252	1252	817	774	689	547	4079	3898	104.64
1993-94	1246	1246	813	770	729	592	4150	3920	105.87
1994-95	1240	1240	809	766	726	627	4168	3943	105.71
1995-96	1234	1234	805	763	722	626	4150	3965	104.67
1996-97	1229	1229	801	759	718	623	4130	3951	104.53
1997-98	1224	1224	798	755	715	620	4112	3938	104.42
1998-99	1220	1220	795	752	714	617	4098	3924	104.43
1999-2000	1215	1215	792	750	709	614	4080	3911	104.32
2000-01	1210	1210	789	747	706	612	4064	3897	104.29
2001-02	1205	1205	786	744	703	609	4047	3880	104.30
2002-03	1199	1199	782	741	701	607	4030	3864	104.30
2003-04	1194	1194	778	738	698	604	4012	3847	104.29
2004-05	1188	1188	775	734	695	602	3994	3830	104.28
2005-06	1183	1183	771	731	691	600	3976	3814	104.25
2006-07	1177	1177	768	727	688	597	3957	3797	104.21
2007-08	1172	1172	764	724	685	594	3939	3781	104.18
2008-09	1172	1172	760	720	682	591	3925	3764	104.28

* - Same as new entrants because of no repeaters.

Table 5.32(A_2)
Grade-wise Predicted Enrolment at the Primary Level
WEST BENGAL : 1991 to 2001
Improved Transition and Changed Entry Rates
BOYS

(In Thousands)

Year	*New Entrants (@139.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	1401	1401	961	805	724	767	4658	-	3985	116.89
1991-92	1371	1371	1002	862	774	779	4788	-	4019	119.13
1992-93	1334	1334	1020	906	829	830	4919	-	4054	121.34
1993-94	1311	1311	1032	928	871	889	5031*	-	4090	123.01
1994-95	1281	1281	1051	944	892	935	5103	-	4125	123.71
1995-96	1252	1252	1065	968	907	960	5152	-	4161	123.82
1996-97	1229	1229	1077	987	931	977	5201	-	4148	125.39
1997-98	1205	1205	1092	1004	948	1001	5250	0.92	4134	127.00
1998-99	1181	1181	1105	1024	965	1021	5296	1.81	4121	128.51
1999-2000	1158	1158	1118	1044	984	1039	5343	2.71	4107	130.09
2000-01	1134	1134	1129	1062	1003	1059	5387	3.56	4094	131.58

* - Compared to which official enrolment (provisional) is 5202 thousand.

** - Same as new entrants because of no repeaters.

Table 5.32(A_2)
Grade-wise Predicted Enrolment at the Primary Level
WEST BENGAL : 1991 to 2001
Improved Transition and Changed Entry Rates
GIRLS

(In Thousands)

Year	*New Entrants (@147.0%)*	*Enrolment*					*Total I-V*	*Per Cent Increase*	*ASP 6-10*	*GER (%)*
		*I***	*II*	*III*	*IV*	*V*				
1990-91	1264	1264	776	678	590	463	3771	-	3855	97.82
1991-92	1251	1251	862	732	636	512	3993	-	3876	103.02
1992-93	1237	1237	894	814	687	558	4190	-	3898	107.49
1993-94	1224	1224	924	845	763	609	4365*	-	3920	111.35
1994-95	1211	1211	954	874	790	682	4511	-	3943	114.41
1995-96	1198	1198	984	903	816	717	4618	-	3965	116.47
1996-97	1186	1186	1012	932	842	748	4720	-	3951	119.46
1997-98	1175	1175	1041	959	867	780	4822	0.15	3938	122.45
1998-99	1163	1163	1069	987	891	811	4921	2.20	3924	125.41
1999-2000	1152	1152	1097	1015	915	842	5021	4.28	3911	128.38
2000-01	1141	1141	1123	1042	939	874	5119	6.31	3897	131.36

* - Compared to which official enrolment (Provisional) is 4815 thousand.

** - Same as new entrants because of no repeaters.

5.9 Additional Scenarios

In the scenarios presented above, it was assumed that both the entry and transition rates over a period will improve. But in fact, as we approach UEE, both the percentage of overage and underage children as well as the enrolment ratio (gross) will start to decline. Also, different programmes designed to increase enrolment and reduce the drop-out rate would increase the number of students coming to school each day over the past trends. Programmes included to reduce repetition and late entry would have a negative effect. In view of this, the following additional scenarios have also been tried and enrolment at the Primary level predicted.

5.9.1 All India Level

Scenario I

Entry Rate: Decline in linear fashion from the existing rates in the year 1990-91 to 110 (Boys) and 105 (Girls) per cent by the year 2008-09.

Repetition and Drop-out Rates: Decline linearly from the existing rates (i.e. 1989-90) to the rates projected for the years 2000-01 and 2004-05 (Table 5.13); both rates constant at 2004-05 levels to 2008-09.

Scenario II

Entry Rate: As per Scenario I except reach 110 (Boys) and 105 (Girls) per cent by the year 2004-05.

Repetition and Drop-out Rate: Same as Scenario I.

Scenario III

Entry Rate: As per Scenario I for 1990-91 to 2000-01. Annual entry consists of six year age cohort only beginning 2001-02.

Repetition and Drop-out Rate: Same as Scenario I.

Scenario IV

Entry Rate: As per Scenario III except age-6 cohort only for entry from 1995-96.

Repetition and Drop-out Rate: Same as Scenario I.

Scenario V

Entry Rate: As per Scenario IV.

Repetition and Drop-out Rate: Zero.

5.9.2 State Level

Same as the all-India level in the case of entry rate but assumptions on drop-out and repetition rates are state-specific which have been assumed to improve over a period of time from their existing level presented in Tables 5.9 and 5.10.

The projected enrolments are summarised in Table 5.33 and 5.34. By using the projected enrolment, the World Bank (1997) has recently computed changes under different Primary enrolment scenarios for the year 2008-09 which are summarised below in Tables 5.35 and 5.36. For the trend projections which assumes constant entry, drop-out and repetition rates, the system would provide 1.56 billion student years of schooling over the 13-year projection period ending in the year 2008-09. To produce the same number of graduates,

Table 5.33

Projected Enrolment (Grades I-V) : All India

(Figures in Millions)

Year	*Scenario I*		*Scenario II*		*Scenario III*		*Scenario IV*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
1996-1997	63.90	47.88	63.49	51.22	62.58	48.18	56.09	48.16
1997-1998	63.85	48.29	63.31	51.33	62.12	48.65	54.18	47.94
1998-1999	63.73	48.66	63.06	51.45	61.58	49.06	52.68	47.57
1999-2000	63.54	48.97	62.73	51.56	60.97	49.45	51.74	47.24
2000-2001	63.31	49.28	62.34	51.67	60.28	49.73	51.58	47.18
2001-2002	63.09	49.56	61.96	51.73	57.87	49.45	52.35	47.24
2002-2003	62.88	49.89	61.59	51.79	56.16	49.10	52.87	47.41
2003-2004	62.67	50.21	61.21	51.85	55.31	48.70	53.00	47.62
2004-2005	62.46	50.56	60.83	51.92	54.19	48.30	52.94	47.82
2005-2006	62.27	50.92	60.43	51.98	53.67	48.33	53.49	48.32
2006-2007	62.08	51.27	60.05	52.04	54.00	48.58	53.95	48.57
2007-2008	61.87	51.63	59.96	52.10	54.48	48.82	54.15	48.81
2008-2009	61.69	52.01	59.84	52.16	54.49	48.90	54.18	48.90

Table 5.34
State-wise Enrolment Projections (Grades I-V)
2000-01 to 2008-09

(In Thousands)

State	Scenario I						Scenario II					
	2000-01		2004-05		2008-09		2000-01		2004-05		2008-09	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Andhra Pradesh	4488	3802	4493	3808	4248	3781	4214	3617	3978	3531	4041	3642
Bihar	6441	4371	6587	5065	6776	5919	6037	4408	6142	5119	6518	5813
Gujarat	3221	2600	3109	2622	3082	2720	3126	2586	2978	2604	3059	2685
Haryana	1160	960	1168	982	1185	1012	1177	984	1193	1019	1197	1027
Karnataka	2942	2510	2697	2355	2475	2237	2860	2476	2569	2295	2366	2173
Kerala	1526	1438	1579	1483	1644	1564	1536	1445	1598	1494	1656	1547
Madhya Pradesh	4892	4015	4795	4079	4710	4155	4837	4046	4712	4123	4658	4170
Maharashtra	5372	4924	5560	4927	5567	4968	5250	4839	5352	4780	5433	4856
Orissa	2600	1988	2475	2004	2329	2018	2511	1983	2321	1988	2218	1994
Punjab	1079	439	1119	986	1207	1066	1096	961	1149	1018	1222	1084
Rajasthan	3167	1941	3138	2222	3068	2536	3148	2145	3080	2496	2881	2643
Tamil Nadu	3012	2706	2877	2557	2740	2459	2962	2628	2709	2433	2628	2382
Uttar Pradesh	9575	6485	9921	7578	10284	8819	9660	7036	10223	8457	10405	9164
West Bengal	4468	3960	4224	8777	3943	3537	4369	3904	4041	3654	3814	3314

Table 5.35
Changes Under Different Primary Enrolment Scenarios for the Year 2008-09

Indicator	*Trend Projection*	*Scenario I Moderate Efficiency Gains*	*Scenario II Rapid Reduction in Entry Rate*	*Scenario III Age-group only from 2001-02*
Entry Rate		By 2009	By 2005	By 2001
Boys	132	110	110	100
Girls	132	105	105	100
Drop-out Rate		By 2005	By 2005	By 2005
Boys	36.5	10.1	10.1	10.1
Girls	42.5	21.6	21.6	21.6
Repetition Rate				
Boys	19.5	7.4	7.4	7.4
Girls	19.6	9.7	9.7	9.7
				(In Millions)
Total Student Years Provided	1,560	1,578	1,561	1,494
Minimum Student Years Required	1,255	1,420	1,417	1,361
Excess Student Years Provided	305	158	144	133

Source: Based on Table 5.33 and 5.34 computed by the World Bank (1997).

a perfectly efficient system would require only 1.26 billion student years of education. Thus, compared to a fully efficient system, the system under Trend Projection would provide 300 million excess student years, requring 24 per cent more in recurrent costs. The changes under Scenario I would reduce the excess years (158) of education provided by 48 per cent, and the changes under Scenario II by slightly more. Scenario III would reduce the number of excess years (144) provided by as much as 55 per cent. The excess student years provided

Table 5.36

Excess Student Years Provided under Different Primary Enrolment Scenarios to 2008-09 in 14 Major States

(In Millions)

State	*Trend Projection*	*Scenario I*	*Scenario II*	*Scenario III*	*Gain Best Scenario (%)*
Andhra Pradesh	32.28	19.68	20.27	18.60	29
Bihar	46.83	40.67	44.89	42.46	35
Gujarat	20.83	11.94	10.47	8.04	23
Haryana	3.60	3.47	3.40	2.83	13
Karnataka	23.56	12.85	10.54	7.76	29
Kerala	0.51	1.67	1.46	1.52	01
Madhya Pradesh	22.94	19.03	18.29	16.03	18
Maharashtra	26.94	17.45	16.33	12.62	17
Orissa	17.98	10.00	8.64	7.12	26
Punjab	3.83	4.83	4.74	4.16	15
Rajasthan	25.06	18.10	16.22	13.65	39
Tamil Nadu	5.86	2.84	2.28	1.38	06
Uttar Pradesh	45.74	46.05	44.18	37.90	24
West Bengal	19.91	11.71	9.45	4.04	16
All India	**304.61**	**157.61**	**144.97**	**132.33**	**20**

Source: Based on Tables 5.33 and 5.34 computed by the World Bank (1997).

under different primary enrolment scenarios to year 2008-09 in fourteen major states (Table 5.36) show that the highest potential efficiency gains associated with improvements in the flow of students may be realised in the state of Andhra Pradesh, Bihar, Karnataka, Orissa, Rajasthan and Uttar Pradesh which is in the range of 24 to 39 per cent. In these states the payoff to improvements in the quality of instructions and in attendance can be expected to be very high, and with the savings from the efficiency gains, the improvements need not mean much increase in the cost per graduate. Educational development policies in these states will, therefore, need to pay particular attention to reducing drop-out and repetition rates (World Bank 1997).

Chapter 6

Future Prospects

In the present study both the mathematical and analytical techniques have been employed to project and predict future enrolment at the all-India and state level. Linear and non-linear models are fitted to time-series data to obtain aggregate enrolment at the Primary and Upper primary levels of education. Whereas analytical techniques, namely, grade-ratio and grade-transition methods have been used to predict grade-wise enrolment. Due to limitations in enrolment statistics, in a majority of states, the two sets of projected enrolments are not comparable because of a number of reasons predominantly the year up to which data is used in a particular technique. The trend analysis is based on the long time-series data of 1966-67 to 1992-93 whereas analytical methods are based on the enrolment data of two consecutive years namely, 1989-90 and 1990-91, 1990-91 being the latest year for which the grade-wise enrolment (official) was available. Hence, during the intermediary period i.e. 1991-92 to 1994-95, it is expected that the situation in respect of intake (entry) rate and enrolment ratio might have already been improved but the same is not reflected in methods based on the analytical techniques. Not only data (grade-wise) used in the predictions are outdated but in a few states, such as, Andhra Pradesh, Orissa, Rajasthan and West Bengal, even 1989-90 grade-wise enrolment itself is not available which is the minimum requirement, if methods based on the analytical techniques are to be employed. Hence, adjustments are made to get enrolment in the year 1989-90 which in fact might have affected the quality of predictions. Similar is the case with the number of repeaters which are not reported in a number of states which may be due to adoption of the no detention policy up to Grade V. It has been observed that predicted enrolment in the initial period compares well with the official estimates (provisional) and those based on the trend analysis but in the later years in a majority of states both the estimates are not at all comparable. In initial years, deviations computed between the two estimates are insignificant except in a few states. Hence, unless the latest and reliable grade-wise enrolment and repeaters for at least two consecutive years are available and used in predictions, the two sets of estimates are bound to differ significantly. Therefore, in the light of these limitations in enrolment data, analytical techniques may not produce reliable estimates of future enrolment. Hence, trend analysis which is based on the latest data can safely be retained to know the future course of enrolment (Grades I-V) and also to project the likely year of achievement of the goal of UPE/UEE.

Both enrolment projection and prediction exercises undertaken in the present study gives enough indication that the goal of UPE in the country except in a few states are not right in the sight and would continue to remain elusive in a majority of states, if the past trend in enrolment does not turn for the better. However, results at the all-India level indicate that the goal of UPE is likely to be realised in the year 2004-05 in the case of boys and 2007-08 in the case of girls which is similar to the one obtained recently by Mehta (1993,2). But the goal at the Upper primary level would continue to remain elusive even after 2008-09, the year up to which projections in the present study are made. However, disaggregated projections at the state level are supposed to produce more reliable estimates of future enrolment than at the all-India level.

The results (Table 6.1) at the state level reveal that Tamil Nadu is the only state in the country which might have already achieved the goal of UPE and it is further expected that all children in the age-group 11-13 years would have enrolled in the year 1994-95 in the case of boys and 1997-98 in the case of girls, which means the goal of Universalisation of Elementary Education (UEE) in the state would have been realised in that year. However, if the concerted efforts are made, the goal of UPE in a few states such as, Gujarat, Karnataka, Maharashtra and West Bengal can also be achieved by the turn of the present century. On the other hand, a large number of states are in a position to achieve the goal of UPE in the case of boys within the

Table 6.1

State-wise Likely Year of Achievement of Goal of UPE/UEE (Based on Trend Analysis)

State	*Primary Level*		*Upper Primary Level*	
	Boys	*Girls*	*Boys*	*Girls*
Andhra Pradesh	2004/05	**	**	*
Bihar	*	*	*	*
Gujarat	1995/96	2006/07	2004/05	*
Haryana	**	**	**	*
Karnataka	1996/97	1998/99	***	**
Kerala+	-	-	1999/2000	1999/2000
Madhya Pradesh	2002/03	**	*	*
Maharashtra	2000/01	**	**	*
Orissa	2004/05	*	**	*
Punjab	***	2008/09	*	*
Rajasthan	**	*	***	*
Tamil Nadu++	Achieved	Achieved	1994/95	1997/98
Uttar Pradesh	2007/08	*	*	*
West Bengal	2000/01	2007/08	2008/09	2007/08
All India@	2004/05	2007/08	2007/08	*

* - Not in sight

** - Sometime after the year 2008-09

*** - Just after the year 2008-09

+ - Estimates of overage/underage not available

++- Tamil Nadu perhaps is the only state which according to both techniques might have already achieved goal of UPE.

Note: @ Disaggregated projections at the state level are supposed to produce more reliable projections than at the all-India level

- Likely years are based on the refined enrolment ratios computed on the basis of 23.71 and 15.78 per cent grossness at Primary and Upper primary levels. **The projections are subject to change when more reliable state-specific estimates of overage and underage children are available.**

Source: Projected by the author based on Tables 4.6 to 4.19.

stipulated dates. Thus, if the past trend continues, universal primary enrolment in the case of boys is expected to be achieved in Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Orissa and West Bengal in the near future. However, except Tamil Nadu, Karnataka is the only other state in the country which is also in a position to achieve the goal of UPE in the case of girls sometime in the year 1998-99. None of the other states are in a position to universalise the education of girls (age-group 6-10 years) before the year 2006-07. Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab and West Bengal are expected to enroll all girls of age-group 6-10 years sometime near the year 2008-09. Since, available estimates of overage and underage children are not applicable to Kerala, the likely year of achievement of the goal of UPE in the state has not been projected which is otherwise considered one of the most educationally advanced states of the country. The projections further reveal that compared to the Primary level, the situation at the Upper primary level with particular reference to achievement of the goal of UEE is grim and disappointing. As mentioned earlier, Tamil Nadu is the only state in the country which would be in a position to attain the goal of UEE sometime in the year 1997-98. However, the goal at the Upper primary level in the case of boys can also be achieved in Andhra Pradesh, Gujarat, Maharashtra, Orissa and West Bengal sometime after the year 2008-09. But universalisation of girls' education in the age-group 11-13 years except in Karnataka, Kerala and West Bengal is not expected to be realised even after the year 2008-09 and is likely to remain elusive for many many more years. Since projections are based on the assumption of 23.71 and 15.78 per cent estimate of overage and underage children respectively at the Primary and Upper primary levels of education, they are subject to change when more reliable state-specific estimates are available for which surveys at the local level need to be conducted. In case of lower estimates than used in the present study, chances of early realisation of the goal is bright. In the states which have already acquired the status of universal enrolment or are likely to acquire it in the near future, attention would have to be paid to achieve universalisation of quality primary education which is at present at low ebb.

Thus, projection exercises undertaken in the present study indicate that not only rigorous efforts are needed to achieve the goal of UPE/UEE but certainly the target date itself in a number of states needs to be shifted to some other date(s). In the past, it had been a practice to set targets of additional population needs to enroll during the plan periods only at the all-India and state level. Of late, NPE and its Revised Policy Formulations (1992) and eighth plan envisaged disaggregated target setting at least at the district level which is also one of the major objectives of the DPEP launched recently in the country. It looks unrealistic that the target date to achieve UPE in Kerala and those in Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh is the same i.e. year 2001 (target date is now revised to year 2005). Thus, not only disaggregated targets are needed but target dates should be fixed separately for boys, girls, scheduled caste and scheduled tribe children and rural and urban areas keeping in view the existing status of school education in different parts of the country. As mentioned, in a number of states, the goal of UPE is well within the reach but in the rest of the states, it is still a distant dream. Therefore, it would be better to identify educationally backward areas in states and then target dates are fixed which is similar to one adopted in the TLC programmes. Once a district/state attains the goal, it may be declared a total enrolled district/state. Otherwise, target dates would again require a shift to the later stage, if the past trend is any indication.

It has been observed that in states which are not likely to attain the status of universal primary education in the near future, a number of projects sponsored by the donor agencies are either implemented or under process of implementation. The projection exercises revealed that the goal of UEE particularly in the states of Andhra Pradesh, Bihar, Haryana, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal is not likely to be realised by the stipulated date. The DPEP project is under implementation in five districts each of Andhra Pradesh and West Bengal. The UNICEF assisted 'Bihar Education Project' which was under implementation in seven districts of Bihar, has now come under the DPEP along with ten new districts. DPEP is also under implementation in four districts of Haryana and thirty four districts of Madhya Pradesh whereas World Bank sponsored 'UP Basic Education Project' in Uttar Pradesh (now under DPEP) and SIDA assisted 'Lok Jumbish' project in Rajasthan are also under implementation. In addition, it is proposed to cover ninteen districts under the DPEP in Rajasthan. In Orissa too, DPEP is under implementation in eight districts. However, coverage of the existing projects in terms of the number of states and districts in a state is confined to a limited area and only a part of the total child population who are currently not enrolled is covered. Thus, unless the existing projects are spread to the remaining districts or new projects are implemented in these areas, the impact in terms of enrolment coverage at the state level would not be significantly visible. However, it was envisaged that DPEP would be expanded to 110 districts by the end of the Eighth Five-Year Plan (MHRD, 1994) compared to which the programme is currently under implementation in 148 districts of 14 states. Thus, there is a clear indication that the current trend in enrolment is not likely to continue for long but would turn for the better. A positive indication of these projects may be noticed only after a period of eight years from the date of its implementation (latest data indicate that the preliminary trends in enrolment and retention in the first phase districts is encouraging). How far it would change the situation is an issue of interest for the educational planners and policy formulators. In a number of project states, for instance in Bihar, a positive atmosphere has been created in BEP districts through enrolment campaigns and drives, Mahila Samakhya programme of women empowerment, community participation through Village Education Committee (VEC) etc. But a large number of children still drop out from the system before reaching Grade II which severely affects the efficiency of the education system. A majority of children of those who drop out from the system, again take admission in Grade I next year which inflates aggregate enrolment at the Primary level (BEP Appraisal Report, 1994). Also, NSSO 42nd Round survey on 'Participation in Education' conducted in 1986-87 revealed that a majority of children (boys 45 per cent and girls 50 per cent) dropped out from the system for want of interest in education and further studies and due to repetitive failures. However, NSSO data is outdated but gives enough indication about childrens' reaction to curriculum, medium of instruction, infrastructural facilities, utilisation of teaching-learning material and policy of no detention up to Grade V. Childrens' attraction towards education is also reflected in entry rates which in most of the states are high but comparatively boys'/girls' differential in entry rate in some states, such as, Bihar (56.2 per cent), Madhya Pradesh (20.55 per cent), Rajasthan (75.93 per cent) and Uttar Pradesh (41.02 per cent) is very high and significant, which do not indicate that the goal of UPE, particularly of girls, can be achieved without improving the existing entry rates. Unless, existing infrastructural facilities available in schools are adequately utilised, provision of more facilities is not likely to make any significant change towards retaining more children in the system and achieving the goal of UEE. Of course, the scheme of Operation Blackboard has been implemented in a large number of schools but quality, utilisation and timely supply of material is still an area of major concern. However, the recently conducted base line studies in 23 districts of six DPEP states established that OB has a significant impact on learning achievements (Ayyar, 1995). But even in a state like Kerala, instructional materials are not fully utilised which may be due to many reasons predominantly because of the teachers who are not trained to use it (Varghese, 1994).

In most of the states, it has been noticed that if the existing entry and transition rates are improved, the goal of UPE can still be realised by the turn of the present century. Achievement of high entry and transition rates in a short period of about six years from now in some states may be very difficult to attain, if not impossible which is more specifically true in the case of girls. The details of entry rates required to obtain the goal of UPE is presented in Table 6.2 which indicate that in a majority of states very high entry rates in addition to improved transition rates would be required (In fact, as we approach UEE, both the percentage of overage and underage children as well as the enrolment ratio (gross) and entry rate will start to decline). But the existing drop-out rates, particularly of Grade I, in a number of states need to be curtailed significantly which otherwise hamper the progress made through enrolment drives and campaigns. Community participation and teachers' commitment and motivation can play a significant role in arresting drop-out rates for which District Institute of Educational Training (DIET) needs to be strengthened without any further delay. Mention of Bihar and Rajasthan here is worth-while

Table 6.2
State-wise Entry and Transition Rates Required to Achieve Goal of UPE by the Year 2001*

(In Percentages)

State	Boys				Girls			
	Entry Rate		*Transition Rate*	*Per Cent Increase*	*Entry Rate*		*Transition Rate*	*Per Cent Increase*
	1991	*2001*			*1991*	*2001*		
Andhra Pradesh+	154.4	149.0	Improved++	20.34	133.4	153.0	Improved	38.75
Bihar	142.8	150.0	Improved	**48.23**	86.6	163.0	Improved	**163.48**
Gujarat	112.5	123.0	Constant	25.73	94.3	147.0	Improved	25.65
Haryana	102.7	158.5	Constant	25.40	94.5	167.0	Constant	39.00
Karnataka	150.4	159.4	Constant	3.40	142.0	148.1	Improved	11.64
Kerala	99.6	137.0	Constant	24.39	98.4	141.0	Constant	28.73
Madhya Pradesh	123.3	155.0	Constant	17.17	102.7	155.0	Improved	**51.24**
Maharashtra	140.2	148.2	Improved	13.24	133.3	146.3	Improved	21.61
Orissa+	168.6	**	**	**	120.7	135.7	Improved	66.48
Punjab	92.4	139.2	Improved	34.77	88.1	144.0	Improved	44.93
Rajasthan+	162.9	138.0	Improved	13.79	86.5	158.0	Improved	**118.70**
Tamil Nadu	156.3	**	**	**	143.8	**	**	**
Uttar Pradesh	103.2	146.0	Improved	32.81	62.2	156.5	Improved	**93.17**
West Bengal+	163.7	139.0	Improved	3.56	156.0	156.0	Improved	6.31
All India	137.0	147.0	Improved	17.48	108.2	153.6	Improved	46.10

* - Since the state-specific estimates of grossness are not available, 23.71 (boys) and 15.78 (girls) per cent is considered estimate of overage and underage children at the Primary level of education which is subject to change when more reliable estimates are available

** - Goal might have already been achieved

+ - Based on the adjusted data

++ - Largely improved rates means 0.975, 0.950, 0.925 and 0.900 per cent promotion rates from Grades I/II, II/III, III/IV and IV/V with/without repetition rates. In case the existing rates are higher than assumed promotion rates, existing rates are retained.

where as many as 34 and 33 per cent children of those who take admission in Grade I do not reach even Grade II. In Rajasthan, retention rate at the Primary level is as low as 24.76 per cent (boys) and 19.58 per cent (girls) which suggests that in the process about 75.24 per cent boys and 80.42 per cent girls drop out from the system. The situation particularly in Bihar, Madhya Pradesh, Orissa, and West Bengal with respect to retention rate is also not encouraging. In the past, attention was paid to only retention rates at the Primary and/or Upper primary levels of education but grade-to-grade drop out rates were neglected. Even the DPEP guidelines are silent on entry and grade-to-grade drop-out rates and only reducing the overall primary drop-out rate for all students to less than 10 per cent is in the focus. Thus, greater attention is now required on those children who are already in the system for which management information system for monitoring of enrolment in Grade I at the grassroots level needs to be developed.

The grade-wise enrolment generated through analytical methods produced significant information on vital indicators, such as, new entrants, entry and transition rates. Thus, new entrants projected in the present study can be of immense use, if the planning exercises are based on it. However, there is a need to revise predictions periodically as and when latest data on population, enrolment and repeaters are available. The discrepancy between actual and projected enrolment, if noticed, may be due to a number of factors which should be incorporated at the time of each such revision. It would be better, if enrolment projection exercises are undertaken at least at the district level which in turn should be added together to obtain future enrolment at the state level.

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